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# OLD CROW, Y.T. AND THE PROPOSED NORTHERN GAS PIPELINE

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OLD CROW, Y.T.  
AND THE PROPOSED NORTHERN GAS PIPELINE

by

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for the

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The data for this report were obtained as a result of investigations carried out under the Environmental-Social Program, Northern Pipelines, of the Task Force on Northern Oil Development, Government of Canada. While the studies and investigations were initiated to provide information necessary for the assessment of pipeline proposals, the knowledge gained is also useful in planning and assessing highways and other development projects.



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## INTRODUCTION

### Purpose

The existence of a major gas and oil reserve at Prudhoe Bay, Alaska has prompted the desire to bring these resources to markets primarily in the United States. Gas and oil discoveries, of as yet unknown size, in the Mackenzie Delta area may also require marketing. There is, therefore, a proposal to build a trunk natural gas pipeline from Prudhoe Bay across the northern Yukon to the upper Mackenzie Delta, then south up the valley of the Mackenzie River to connect with the gathering and distribution pipeline network in Alberta.

This study is to provide the basis for an assessment of the consequences of building and operating a trunk gas pipeline through the northern Yukon upon the social and economic life of the people of Old Crow, Y.T. In February 1973 when initial negotiations for conducting the research began, the proposed route of such a line between Prudhoe Bay and the Mackenzie Delta was not known. Two alternatives, however, seemed likely; a northern coastal route skirting the edges of the mountains along the north slopes was one possibility. Another route leading inland from Prudhoe Bay and crossing the Yukon in the immediate neighbourhood of Old Crow was a second alternative and was identified as the Porcupine route. At the time of writing,

we now know that the consortium of companies applying for authority to undertake the pipeline enterprise has opted to build along the coastal route. Nevertheless, the report necessarily considers both possible route locations.

#### Nature and Scope of the Study

A statement about the social and economic consequences of a nearby gas pipeline for a community like Old Crow must cover a very wide range of considerations. The lives of individuals who make up the community are in themselves an integration of their cultural, social and economic experiences. Thus to classify, aggregate and project data and trends is greatly dependent upon subjective judgement. It is true we can generate facts and statistics, but the arguments which they support or attack must themselves be conceived with care. Because life for any community is a continuum, an historical approach has been taken. The report attempts to describe the changing way of life in Old Crow from the time of the Fur Trade's beginning. This means an assessment of the changing relationship of man to the surrounding land and its bounty. The contacts with Euro-Canadian culture and its technology have presented Indian people with a much changed spectrum of economic opportunities and thus has altered the material things in life. What has happened to social organization and cultural roots is less easy to specify, but it is necessary to try.

The changes in way of life that have taken place in Old Crow have occurred relatively quickly. The building and operating of a major trunk gas pipeline would, however, be a very sudden and profound stimulus for change by comparison to the recent past. Moreover, it is a stimulus that is quite unlike any previous development, and once launched, the consequences are not reversible. For this reason it is necessary to make a statement of social and economic impact; for this reason as well it is most difficult to assign a confidence level to the impact statement.

The main source of information for this research is, of course, the people of Old Crow. Without their participation, the research is impossible. The project therefore presents a unique opportunity for the purposes of Government and the interests of Old Crow people to come together in a joint enterprise. The funding of Government and the co-operation, information and good will of the people are here combined in this report; copies are to be delivered to the Department of Indian and Northern Affairs, and to the Band Council representing the settlement of Old Crow.

#### Objectives of the Study

The study attempts to report information and conclusions related to the terms of reference listed below. The study director was given a free hand to range

beyond the terms, but in no case was there to be investigation or reporting beyond the purview of the Environmental Social Program of DINA.

Terms of Reference

1. The study will include a brief, comprehensive historical account of Old Crow beginning with the introduction of the fur trade. It will report the main characteristics of cultural ways of the people of Old Crow. In so doing, the report will show how the current life is related to the land and resources of the surrounding region, and consider the relations between the settlement and other nearby settlements through which the goods and services reach Old Crow from the outside.

2. The demographic data is to be made current and projected until 1981. It will gather descriptive and quantitative data concerning health, education, trade skills -- including both traditional and modern ones, occupation, income patterns, housing and services, sanitation, etc., -- in short, the physical and economic conditions of living in Old Crow. Information about the social organizations of the community is expected and should include the subjects of leadership, political and community organizations, and recreational and religious activities. Bare data on these aspects of the community will be accompanied by discussion adequate to show their interrelationships and provide a clear understanding of how the village functions.

3. The study will include a description and analysis of the economic base for the community. A significant aspect of the work will be to assess the importance of local resources. Traditionally, the most important of these resources has been the game. The study will attempt to

- (a) Document the harvest of game -- for food, fur and to include wildfowl and fish, for a 5-10 year period.
- (b) Determine the intensity of harvesting in the immediate past and at present by mapping traplines, bush camps and traditional hunting areas, and report the seasonal or daily use of such facilities.
- (c) Work out the extent to which game represents direct real income for the community, and how much wild meat and fish is used by local people and dogs. This is to be related to the number of families and individuals who give all or part of their time to hunting, trapping or fishing.
- (d) Gather information about how much game exists now in relation to the past, and record the views of the people about how hunting, trapping and fishing might be developed, made more attractive as a job and bring higher wages or income to the people.

4. The analysis of the economic base will include the role of other local resources, such as wood, and other income from wage employment, pensions, or income-maintenance programs of governments. This assessment will span at least a three-year period, and the changes in the

relative importance of game and fur harvesting to wage employment should be clear so that trends can be seen.

5. The functions of the settlement of Old Crow shall be mapped and consequences of the physical expansion of the settlement considered.

6. Based upon the understanding of the current social and economic status of the community and its people (1 to 5 above), the study will make an assessment of the probable effects of introducing a trunk gas pipeline by either the Porcupine or the Coastal route. The assessment will be made for both the construction phase and the operation phase, and will assume a maintenance center at or near Old Crow on the Porcupine route. The effects looked for will be:

- (a) cultural - including changes in cultural values; e.g., the importance of the land and its resources, changes in patterns of local travel, the attitudes and the adjustments to life as a wage earner, etc.
- (b) economic - including changes in income pattern, employment opportunities, local resource utilization, transportation and communication facilities and their consequences, community services, housing needs, etc.
- (c) social - including interpersonal and intergroup relationships which may arise out of changing economic opportunities, interaction with noncommunity individuals or groups especially in the construction phase, local leadership, and other foreseeable consequences as the

project director may determine.

7. The conclusions of the study will report the relative impact of a trunk pipeline along both proposed routes. It will make this judgement from the viewpoint of the Old Crow settlement and with the assistance of its people. The report will comment upon preparations, precautions, conditions, agreements, and regulations that would be necessary to create the least disturbance to the community of Old Crow and yet provide the greatest benefits, opportunities and safeguards for the local people.

#### Previous Work

The prospect of a pipeline near Old Crow is a recent development. Consequently, the only previous work available to the author that assesses in any way the impact of such a development is a report by D. Bissett and S. Meldrum, Economic Staff Group, D.I.A.N.D., entitled Old Crow, A Community in Transition, February 1973. An approach to the problems of resource development in the north was presented by J.K. Naysmith in Canada North - Man and the Land, 1971, who used Old Crow as a case study. There are, of course, other sources of data in reports and publications prepared for specific purposes. Nowhere, however, is there a document publicly available concerning the impact of a trunk gas pipeline upon Old Crow, its people and region.

When one comes to review the general literature on questions of both social and economic significance for

this particular area, the findings are few in number. Most valuable are the contributions of Cornelius Osgood (Contributions to the Ethnography of the Kutchin, Yale University Publications on Anthropology No. 14, Yale University Press, 1936) Asen Balikci, (Vunta Kutchin Social Change,) N.C.R.C., Department of Northern Affairs, 1963) Douglas Leechman (The Vanta Kutchin, National Museum of Canada Bulletin No. 130, 1954) Ann Welsh "Community Patterns and Settlement Pattern in the Development of Old Crow Village," Western Canadian Journal of Anthropology, Vol. 2, No. 1, 1970). An extensive bibliography by Roger Poppe (Kutchin Bibliography, An Annotated Bibliography of the Northern Yukon Kutchin Indians, Canadian Wildlife Service, Edmonton, 1971) is a very necessary source for anyone wishing to follow further studies in the region. Apart from the bibliography, the other sources mentioned above were used to develop the account of the early contact period, and to get a structured view of the community up until quite recently. All the sources are reliable and consistent, and the field work carried out for this report unearthed no major contradictions to the published material.

ACKNOWLEDGMENTS

The research was commissioned by the Department of Indian and Northern Affairs and there are many departmental officers in Ottawa and Whitehorse who generously and efficiently acted on every request put to them. I had splendid co-operation. Much of the data was only available in Whitehorse, and members of the research team were greatly helped by senior officials in the Departments of the Territorial Government. In fact, their on-the-spot experience was valuable in helping to identify sensitive issues for the research.

The open reception that we got in Old Crow and the ready way in which the people responded to questions and enquiry was really very gratifying. Doubtless the tone was set by the friendly way Chief Charlie Abel and the Band Council responded to a request to them for partnership in assessing the impact of a pipeline in their community. I thank the Chief and the people sincerely.

The work of the project owes more than a nod of recognition to the two chief research assistants. Bob Sharp, who remained as Principal of the school in Old Crow, has a fine sensitivity to northern society and knowledge of its problems; he had a major contribution to make in planning and executing the field pattern of the work. As the senior assistant, he worked in the community with skill and tact to preserve the good will of the residents

and get the job done. Bob McSkimming met his responsibilities in the field faultlessly, and during the preparation of the report, I came to depend upon him as a researcher, cartographer and critic. Each of these gentlemen will recognize his contribution and I freely acknowledge my debt for their aid. There were others who helped as local research assistants in Old Crow and are listed in the Appendix; I thank them and the respondents. Mary Corbett toiled over the data analysis and computer work, hardly ever complaining and I am grateful.

June, 1974.

Vancouver, B.C.

J. K. Stager

PART I

The Cultural and Historical Background

### Geographical Setting

Old Crow is a Loucheux Indian village located on the north bank of the Porcupine River just downstream from the junction with the tributary Old Crow River ( $67^{\circ}35'N$ ,  $139^{\circ}50'W$ ). It is the most northerly settlement in the Yukon Territory. The name of the village derives from the nearby river, which in turn is associated with an elderly man, called Old Crow, who had a fish camp nearby in the legendary past. (Welsh, 1970, p.24). The present population is about 206 people, 142 of whom are Indian, 47 are Métis and 17 white residents. There are another 50 Old Crow people some of whom are permanently and some temporarily resident elsewhere in the Yukon or nearby N.W.T.

Since the report concerns the people, the region that is tributary to the village may be defined in terms of human perception and occupancy. Both these measures are changing over time, and for purposes of initial description, the study area consists of the northern Yukon Territory including the whole of the Upper Porcupine drainage. (Figure 1). One of the alternatives for the proposed pipeline, the Interior Route, bisects the area and the Coastal Route lies on the northern side of the drainage divide that in some sense contains the Old Crow lands.

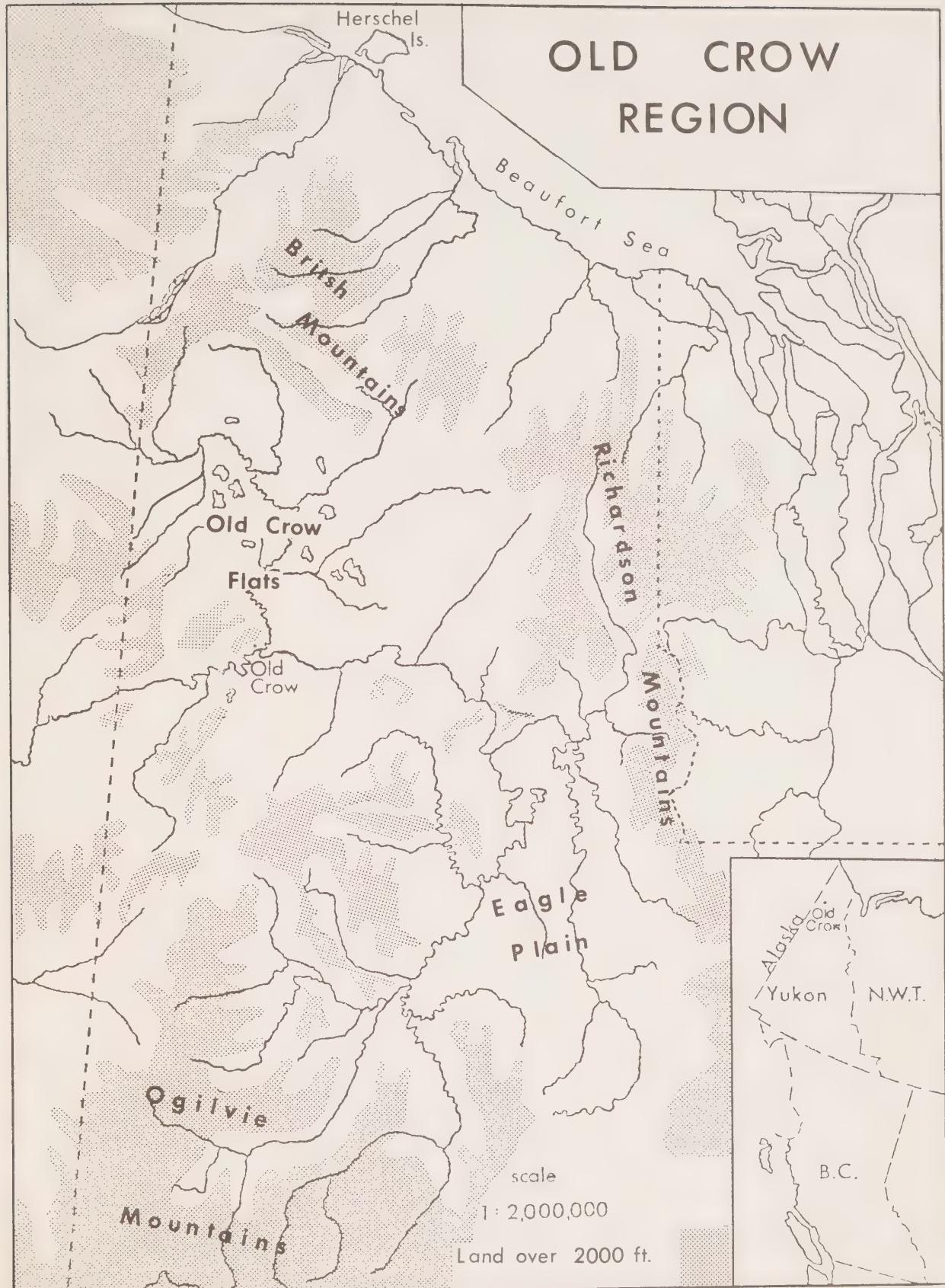


FIGURE 1

The main axis of the region is the Porcupine River, which except for low water has no impediment to navigation. The river has been the highway for summer movement, plays an important role in the hunting strategies of the people, and is the source of considerable fish food. The Porcupine valley is flattish, mostly about 1000 feet O.D.<sup>1</sup> North of it are the Crow Flats, a lake strewn plateau that has a high population of muskrats which attracts Old Crow people each spring. Beyond the Flats are the British Mountains, and to the east the Richardson Mountains form the divide between Yukon River drainage and water spilling to the Arctic sea. Southeast of Old Crow is the Eagle Plain, the valley of the tributary Eagle River. The Porcupine itself rises in the Ogilvie Mountains that are the southern margin to the region.

### Vegetation

The region is sparsely forested. The tree line skirts north of Old Crow Flats and remains north of the Porcupine River. In addition to the latitudinally controlled limit to trees, there are limitations set by elevation. In fact, trees are densest along the valley bottoms and spread across the plateau surface and up the mountain slopes only to an elevation of about 1800 feet.

The forest species are mainly black and white spruce, with some tamarack and poplar. White birch is represented, and several species of willow and alder are common. Close crowned stands are not found

than 1100 or 1200' O.D. Beyond these elevations is a forest-tundra plant association with trees seldom higher than 20' widely spaced with heath-like tundra in between. Along the rivers and in the Old Crow Flats area, spruce trees up to 2 to 2½ feet D.B.H.<sup>1</sup> may be found. On the high ground is the true tundra, and north of the Flats to the coast is tundra vegetation. Both wet and dry associations occur, the dry with woody plants like willow, labrador tea, blueberries, etc., and wet areas support the grasses and sedge-like cotton grass and various mosses and cladonia lichens or reindeer moss. The forest vegetation is of concern to local man.

### Climate

Climatically the area experiences a continental sub-arctic regime mainly because it is protected from incursions of Pacific air by the high mountain barrier extending along the Alaskan Pacific coast, and because it is some distance from the Pacific Ocean itself. The climatic data reported for Old Crow are from a short record period but may be used as a guide to local conditions.

	J.	F.	M.	A.	M.	J.	J.	A.	S.	O.	N.	D.	Year
an Annual	-30	-17	-8	12	38	54	57	53	40	19	-5	-18	17.1
mp. F.													

an Annual	0.6	0.5	0.5	0.7	0.5	1.0	1.0	1.3	1.0	1.2	1.0	0.5	9.8"
ecip. in.													

One might expect considerable extremes in temperature. For example a record low of -65° F is entirely possible with

1. D.B.H. signifies "Diameter Breast Height."

spells of weather in the  $-40^{\circ}\text{F}$  range expected each winter. Conversely, maximum temperatures to a record high of  $85^{\circ}\text{-}90^{\circ}\text{F}$  are also possible. Shortwarm spells in the high 70's and low 80's may be expected each summer. The precipitation total is low with just over half falling as rain between May and October. Snow may occur in any month but beginning in September and ending usually in May, about 50 inches or so falls on the average. Snow lies to a depth of 2 to 2.5 feet deep in the bush at the end of winter in most years.

#### Daylight/Darkness

Lying as it does north of the Arctic Circle, Old Crow experiences a winter "dark period" and will have continuous daylight in part of the summer. Although the sun remains below the horizon continuously for only a brief period from December 5th until January 14th, the dark period of winter is most noticeable from the end of November until the end of January. Similarly, the long days run from the end of May until the end of July, although the midnight sun is visible for only a short period.

#### Break-up/Freeze-up, Ice and Flooding

Punctuating the seasonal rhythm of climate are the two events, break-up of rivers and lakes and the time that they re-freeze. Spring break-up of the Porcupine at Old Crow occurs close to May 20th. There is a period preceding when travel on ice is hazardous, and pieces of ice may run in the river for several days after it first moves. Jamming along the system

has caused floods; the most recent and probably highest water in living memory occurred in the spring of 1973 when the settlement was temporarily inundated up to 4 or 5 feet in places. This was 25 feet above the mean level of the river. The lakes that are not subject to flooding do not break-up until a couple of weeks after the rivers and creeks. Freeze-up, on the other hand, is expected about the middle of October. Small lakes will freeze over earlier, but the Porcupine in turbulent flow takes longer to approach the freezing temperature. After the ice is firmly set, it is necessary to allow a period of several days before the river ice is safe to travel over. During the period when the river was used by aircraft on floats and skis, there was a period of weeks at both break-up and freeze-up when the community was isolated. The ice thickness increases over the winter and depths of 4 to 7 feet, depending upon season and location, are expected on the Porcupine River or the nearby Old Crow River. Lake ice depths are similar, depending mainly upon snow depths and winter duration.

#### Permafrost

Old Crow lies just at the boundary between the continuous and the discontinuous zone according to Brown (1970: 8-9). For most purposes it is convenient to acknowledge that permafrost exists. In the village there are minor accommodations made because of it. Some buildings are raised

above the ground to prevent direct heat loss to the ground which could cause shifting of foundations. The active layer can be up to three feet because the silt and gravel of the alluvial ground on which the settlement is built is fairly well drained and consequently ice-free. The shallow active layer is confining to those who are required to dig refuse pits and the like; otherwise little attention is paid to the presence of permafrost.

#### Access to Old Crow

The easy access to the village is by air. A direct flight from Whitehorse is about 500 miles, and it is 176 air miles to Inuvik, N.W.T., the nearest large community. Scheduled flights from both locations pass through Old Crow twice weekly and most of the supplies and all of the passenger traffic come by air. Barge traffic, - fuel, building supplies and heavy equipment, - arrive from Dawson via the Yukon and Porcupine rivers on an intermittent basis. The level of water in the Porcupine is critical to the barge schedule and the number of visits are cut back by low water in the late summer. In 1973 there was some uncertainty about the Brainstorm (the tug that pushes barges) partly because the ownership had recently changed. The traffic appears to depend upon pre-arrangement and not regular tripping; the one-way journey is six days. There are no roads to Old Crow; the Dempster Highway is still 150 miles away, although a winter road was built to the settlement from the Dempster

in 1970. It was only open one winter but local people remember that there was a noticeable difference in the cost of supplies.

The Traditional Life: The People and the Land

The Kutchin people are within the Athapaskan language group and their lands are the most northerly Indian lands in North America. Before contact with whites, they hunted and fished along the middle Yukon River, particularly in the tributary basins of the Chandalar and the Porcupine Rivers. Eastern groups of the Kutchin had their lands across the divide in the basin of the Peel River and some occupied the country of the Lower Peel down to the Mackenzie Delta (Figure 2).

Osgood (1936) offered the first comprehensive ethnography of these people and he records eight separate regions where identifiable groups passed their existence. The people along the Porcupine and its tributaries were divided (Figure 3). Around the lake strewn flats drained by the Old Crow River lived the Vunta Kutchin, the people of the lakes. In the upper Porcupine drainage were the Tukkuth Kutchin. Over the divide in the upper Peel basin lived the Tatlit Kutchin. These three groups did not associate regularly in the pre-contract times, (Welsh, 1970:20) but the two groups of the Porcupine drainage came together at the time the settlement of Old Crow was built, and now live as neighbours. Represented in the community also are people of the Natsit, or Chandalar

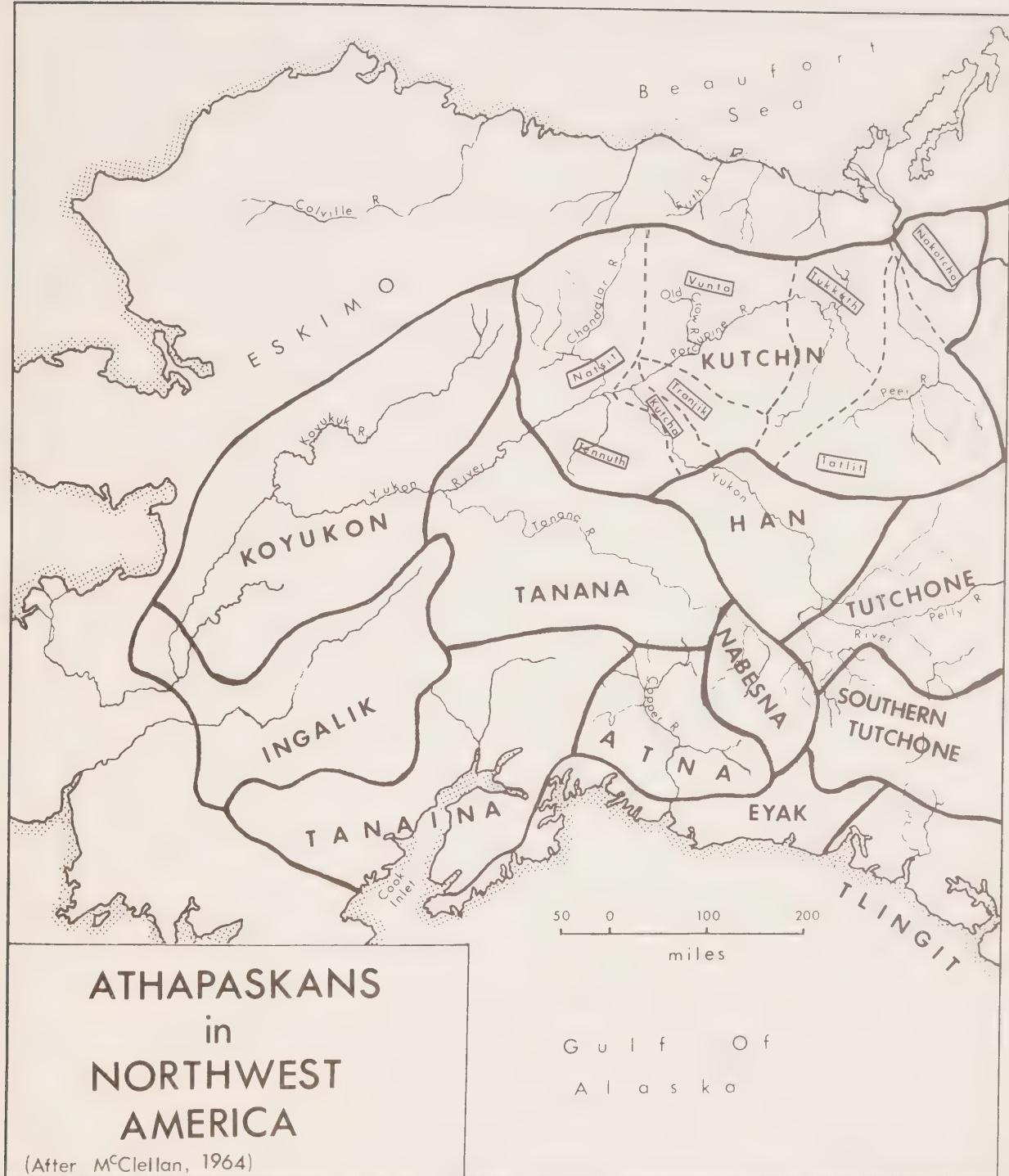


FIGURE 2

River Kutchin from Alaska. After the establishment of Old Crow as a trading center some of these people who formerly resorted to the abandoned post of Old Ramparts House came into Canada to join their neighbours.

The strong natural rythmn of the seasons conditioned the lives of Kutchin (Kutchin is their own word for "dwellers"). The change from winter into summer and back again produced different options in the hunting and gathering of food. The great seasonal migration of the caribou through the Kutchin land is the most important natural phenomenon which influenced the way of life. These animals spend the winter in dispersed groups south of the Porcupine, on the slopes of the Ogilvie Mountains and across the Richardson Mountains in the Peel headwaters, but in spring they move northwest, forming at times continuous streams of animals, heading to the calving grounds along the north slopes by the Beaufort Sea. In late summer the tide is reversed and the herds with a new crop of young return to winter in the forests.

The major hunt for caribou occurs in the autumn. As the animals move south of the tree line groups of people acting together herded the caribou into large surrounds or corrals constructed among the trees for this purpose. At several gates out of the corral, men placed snares or stationed themselves with spears. In other instances, the animals were simply surrounded by hunters and killed by spears, bow, and arrows as they tried to escape.

In a short period many animals were taken and after butchering, the meat was preserved by drying, or when cold enough, by freezing. The people thus engaged in the hunt formed a "meat camp" and there they remained until the meat ran out, usually by mid-winter. Through the rest of the winter they dispersed into small groups surviving in the caribou wintering ground by the skill of their hunters. Variants from the diet of caribou meat were provided by capturing a moose or by dragging a hibernating bear from its den. Women and children usually had snares for rabbits and other small game.

Spring activities varied geographically. The people of the Upper Porcupine (Tukkuth) gathered about Whitestone Village, moved downstream in large moose skin boats after breakup to pass the summer at fish camps along Johnson Creek and about Whitefish Lake. They caught what they could of the spring migrating caribou on the downstream journey, and supplemented the fish diet of whitefish, jackfish and some salmon, with waterfowl and moose, both abundant on the swampy north end of the Eagle Plain. Further west, the Vunta Kutchin moved north to the Porcupine River in time to intercept the caribou migration as it reached the river crossing points after the ice went out. They passed the summer at fishing camps where they built fish traps on tributary streams of the Porcupine. The Vunta Kutchin were more dependant than other groups upon

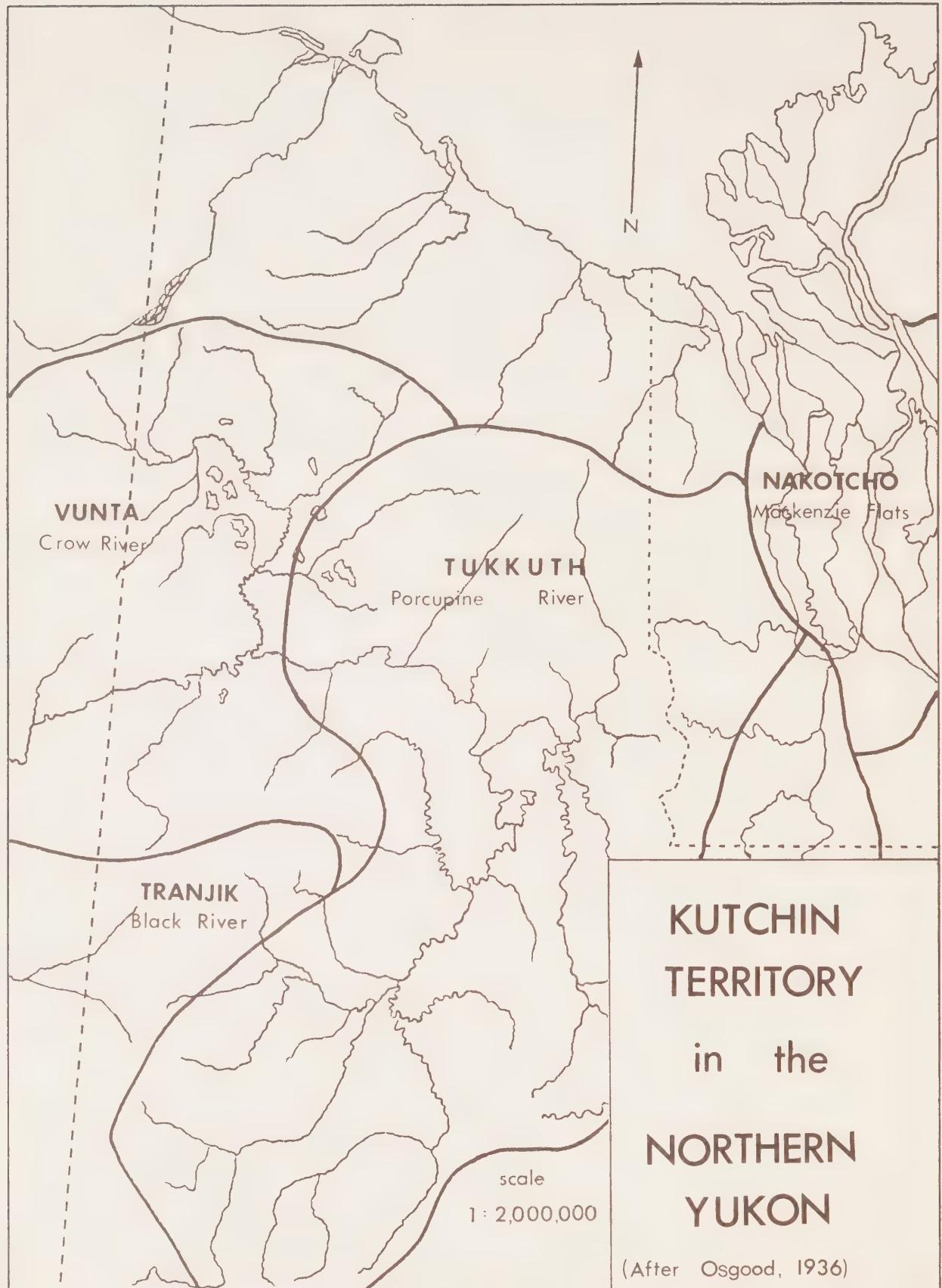


FIGURE 3

the salmon runs. In July salmon appear and are caught almost until the river freezes over. In addition other spawning species like grayling, whitefish and suckers were important. The summer with its pleasant weather and the people located along the river artery, permitted travel for visiting and trading among groups.

The Natsit people hunted in small groups in the foothills of the Brooks Range preying on both caribou and mountain sheep that came to the lower slopes in winter. In spring they followed the caribou as they began the trek to the tundra and stayed with the animals even beyond the tree line. Some of these people elected to pass summer on the banks of the Chandalar River fishing whitefish, grayling and suckers. For some reason this tributary basin did not have a significant share of the salmon migration found elsewhere in the Yukon drainage. Other Natsit Kutchin remained in the uplands living on the residue of the spring meat camp then small game including birds, and by gathering roots and berries until the caribou returned in the fall. The cycle was then repeated.

Contact History

The isolation of the Kutchin lands was broken by the fur trade, and from the time that the first trade goods found their way into native hands, the closed system of native man in his realm was opened to outside, uncontrollable stimuli. The pace of change was really very fast for it is likely that the contact was made with the Kutchin via middlemen at the turn of the 19th century (McClellan, 1964:5). Moving from Russian bases on the Alaskan coast, the Tlingit middlemen developed regular contacts with the Tutchone people of the upper Yukon and Pelly rivers. Items of trade passed via the neighbouring Han Indians to the Kutchin tribes. Russian traders also penetrated from the west through Norton Sound and up the Yukon River. The port of Nulato was built in 1838 on the Yukon, 50 miles downstream from the Koyukuk River confluence. Once again the role of middlemen developed quickly and the Tanana Indians effectively discouraged the Russians from advancing upstream to new trading areas and prevented the Kutchin people from passing downstream through their country to the Russian fort. With the frontier of Russian trade posts held back by the native middlemen, direct European contact with the Kutchin came from the East.

During the historic journey that opened the whole northwest to trade, Alexander Mackenzie in 1789 made the first white contact with the Kutchin. He referred to these people as the "Quarrellers" (Mackenzie 1801:72). The establishment of fur-trading forts soon followed, and the Northwest Company built Fort Good Hope in 1804 (Stager, 1962:40). The Kutchin made little or no contact with the Hare Indians in whose land the new post was built (Osgood, 1936:60). As time passed, however, the items of trade moved downstream and the Peel River Kutchin began to come upstream to Fort Good Hope. They requested that the fort be moved nearer to their lands and in 1823 Good Hope was built at a new site at the mouth of Trading River. The Kutchin trade was disappointing and the hoped-for Eskimo customers did not come, and the fort was removed to the old site in about 1826 (Stager, 1962:42). It was at this time the term "Loucheux" meaning "cross-eye" was ascribed to the Kutchin by the French-speaking boatmen of the trade, and this term has been used as a colloquial name for the eastern groups of Kutchin including the Vunta, Tukkuth, the Tatlit of the Peel River and Kakotcho of the Mackenzie Delta flats.

In the first part of the 19th century the Kutchin people remained at the periphery of the tributary regions of both the Russians and the North West, and later the Hudson's Bay Company. Richardson reported Russian-made

articles from Herschel Island presumably traded to the Eskimos from the Vunta or Tukkuth Kutchin (Franklin, 1928:180). Thus in an attempt to tap the northern lands and divert the Russian trade, the Hudson's Bay Company built Peel's River Post, later Fort McPherson, in 1840 on the Peel River discovered by Franklin fifteen years before. The site, about 35 miles upstream from the mouth was in no man's land between the Loucheux and the Eskimo for it was intended for trade with both groups. The Kutchin of the Peel River drainage appeared not to be interested in the new post partly because goods offered were not of immediate need to them (Wolforth, 1970:62). It seems that these people were never traditionally active in intertribal commerce and did not perceive the fort as a chance to convert to the middleman role (Slobodin, 1962:16). Tukkuth Kutchin of the upper Porcupine frequented the new fort more than the Peel River people. The Vunta Kutchin like their Tukkuth neighbours were used to intertribal trade even with the coastal Eskimos, and they too likely came to Fort McPherson (Leechman, 1954:26). In the first half of the century, the interior people were squeezed by middlemen, the Tlingit and Tanana from the Pacific and Tukkuth and Vunta Kutchin from the east.

The Hudson's Bay Company in the person of John Bell sought routes across the mountains and he explored

up the Peel at least to the high plateau, and discovered the Rat River or McDougall Pass. He crossed this route in 1842, and in the summer of 1846 he travelled via the river named after him to the Porcupine as far as its confluence with the Yukon River. The next year Alexander Murray built "Fort Youcon" at the junction of these two rivers (Stager, 1962:44). The new fort located in the heart of Kutchin lands released the people from the middlemen, and realigned alliances and trade regional boundaries. The trade divide between Fort Yukon and Fort McPherson was midway along the Porcupine. Vunta (Crow Flats) and Natsit (Chandalar) Kutchin went to Fort Yukon; Tukkuth (Upper Porcupine) and Tatlit (Peel River) used Fort McPherson. A small post, La Pierre House, was built on the western slopes of the divide in about 1846 and became the transshipment house for the Fort Yukon outfit to reach its destination and for furs returned to Fort McPherson. La Pierre House had a small stock of essentials like ammunition and tobacco, but very little else (Balikci, 1963:35).

The United States purchase of Alaska in 1867 caused the Hudson's Bay Company to remove its Yukon post to Howling Dog about 200 miles upstream and then another 20 miles or so farther to Old Ramparts in 1869. After the boundary survey of the 141st meridian in 1889, Old Ramparts was shown to be in American territory, and the

Hudson's Bay Company retreated upstream to New Ramparts just on the Canadian side of the line. The Company closed its establishments in the region, first La Pierre House in 1890 and New Ramparts in 1894 (Leechman, 1954:26).

The withdrawal of the Hudson's Bay Company may have been influenced by another source of competition caused by the presence of wintering whalers at Pauline Cove on Herschel Island and at Barter Island (Stockton, 1890:186). In the late 1880's whaling ships entered the Arctic basin hunting in the Beaufort Sea and to the east. The trade developed with Indians and Eskimos bringing meat, driftwood and some furs in exchange for "wages". The range of goods, including food, that was available on the coast was greater than at the forts. Prices were cheaper and alcoholic beverage could be obtained; these trading activities took place in winter. Such a realignment was relatively short-lived because the price of baleen dropped drastically in 1906, and within a year or two the whaling ships were but a memory.

When the words "Klondike" and "gold" electrified the "civilized" worlds in 1897 every conceivable route that focussed on Bonanza Creek and the instant city of Dawson brought adventurers from outside. They headed for the Yukon drainage and a popular routeway was from Edmonton via the Mackenzie River. Some gold seekers crossed the divide through the headwaters of the Peel to the gold

fields and more took the old Hudson's Bay Company route through the Rat River Pass to the Porcupine and on to the Yukon by going both up and downstream (Berton, 1972:230). In the brief period of a couple of years the Kutchin people saw more white men pass through their homelands than ever before and for a long time afterwards. The Indians by helping the travellers learned the route to Dawson and some exploited the need for skins and fur clothing and meat in that city; some found wage employment in summer (Slobodin, 1963:29). These contacts were for the natives the first "civilizing" experiences of white society and its economic system - at least as it was practiced in a city at that time.

The commercial and economic changes brought to the Indians were compounded by the new religion. In 1862, William Kirkby of the Church Missionary Society (Church of England) visited Fort Yukon and reported "Before I left... (they) all correctly sought for pardon and grace." (Kirkby, 1864:419). Robert McDonald came from Red River at first to Fort Yukon and after the Alaska purchase he established headquarters at Fort McPherson in 1868. The next year the Church of England had a mission at New Ramparts House. McDonald, who was part Cree and married to a Peel River woman, was welcomed among the Kutchin. He mastered the language and translated both the Common Book of Prayer and the Bible. The work of his mission

was strengthened by training catechists from each of the bands (Slobodin, 1962:26). Against this rather formidable man the Roman Catholic mission which vied for converts had no real success. With the exception of the Roman Catholic community at Arctic Red River, the Canadian Kutchin people are for the most part Anglican.

The increasing complexity of the Euro-Canadian contact with the native people encouraged the permanent representation of yet another institution among them - government agents in the form of the N.W.M. Police. In the Yukon Territory the drift of prospectors into the Yukon drainage brought appeals to the government for peace officers, and the first Mountie arrived at Forty-mile in 1894 (Berton, 1972:24). By the time that the gold rush was in full swing, a sizeable detail of Mounted Police was keeping order. Representatives of the force came to the Kutchin country to build a post at New Ramparts probably during the time that the stampeders were passing by. Police opened a post on Herschel Island, the whaling base, in 1903. When the boom of gold and whaling disappeared, the police remained as symbols of sovereignty on the edge of the realm.

#### The Settlement of Old Crow

New Ramparts, where the Porcupine crosses into Alaska had a church and police post, but was without a

trader for ten years until Dan Cadzow opened a store in 1904 (Harrington, 1961:5). The facilities attracted the building of some native houses and New Ramparts could be recognized as a settlement of sorts. In 1911-12, a smallpox epidemic occurred and as a precaution most of the native houses at the site were burned down (Welsh, 1970:25). At another point on the Porcupine farther upstream where the Crow River enters, there was a favourite gathering place. It was a traditional fish trap location and the Vunta Kutchin in their precontract days had reason to gather there (ibid:24). In 1912 two independent traders, Schultz and Johnson, built a store at this site (Balikci, 1963:35). The event can be taken as the founding of Old Crow as a "settlement", as the term is commonly used today. A store has been in operation more or less continuously since that time, and other stores have flourished intermittently at Whitestone Village, Johnson Village and La Pierre House. Gradually native houses were built at Old Crow especially after the church moved there from New Ramparts in 1926. The R.C.M.P. built their barracks in 1928 (Welsh, 1970:25). The government added both a nursing station and a school in 1961.

Post-Contact Cultural ChangeMaterial Goods

The arrival of articles of European manufacture, at first via middlemen and later from trading posts, represented a disruption of a closed system in which native man was in dynamic equilibrium with the surrounding environment. By a system of barter, natural products, notably furs, were exchanged for implements and goods perceived to be superior in kind and quality to those of the existing technology. Early staples of the trade were tobacco, guns, ammunition, cloth, metal goods like ice-chisels, axes, knives, awls, needles and copper pots. Three of these items were consumables, especially the tobacco, ammunition and the cloth, and the people very quickly depended upon the supplies. Towards the end of the 19th century the range of goods was much greater for a wide selection of manufactured clothing was offered along with food staples - flour, tea, sugar, etc. Items such as canvas and canvas tents, twine, fish nets, wire snares, steel traps, files, saws and several others became indispensable and they made the business of living from the land a little easier and more secure. Moreover, the barter system led imperceptibly into a credit/debt bond that reinforced the dependence.

Clothing: Traditional clothing of tanned caribou skin was one of the first aspects of Kutchin material culture to disappear. Wool shirts and trousers, and home made wool and duffle parkas were quickly adopted, and after the middle of the last century most clothing was of manufactured cloth, except moccasins which were preferred to European footwear (Balikci, 1963:45). The only traditional garment to survive into this century was the winter parka, now made with the headpiece attached instead of separate. The caribou skin with the insulating hair attached provides a light, warm and windproof protection against the cold winter. As prolonged outdoor activity and travel has tended to decline, so has the dependence upon traditional clothing.

Shelter: People on the move required semi-permanent dwellings, and the Kutchin used a low, somewhat dome-shaped lodge of bent spruce poles covered by caribou skins. In winter they were heaped with snow. Other shelters like a moss or sod house were sometimes used, and travelling in the bush a family could survive with a brush and skin leanto. Once converted to the fur trade and with new tools available, permanent log cabins were built by fish traps and at strategic locations on a trap line. In many cases newly available canvas tents were satisfactory for tripping even in winter, and they were used in summer at fish camps or at the fort. The canvas

tent very quickly replaced skin-covered dwellings and were widely used before many log cabins had been built.

Diet: Country food persisted as the usual diet well past the introduction of trade. It was probably the desire of the trader for variety in his own diet that led to the importation of other food staples. In the Kutchin country European food became abundantly available when the whalers camped about Herschel Island, and after that time flour, sugar, coffee, biscuits, etc. were common. The Hudson's Bay posts used tobacco in trade from the beginning and natives became used to tea at an early date. Alcoholic drinks were first available in any quantity during the gold rush and at the whale camps on the coast. The skill (?) in brewing likely dates from that time. Sometime between the two world wars, a few canned goods became common in trader stores. Jams and preserves sold well, for example.

Improved and cheaper transportation along with an increased number of white men who arrived for summer work helped convert the tastes in food toward more manufactured or processed items. In Old Crow a good range of food items exists in the Co-op store, but country food still is important for both taste and economy reasons.

Travel: Movement about the countryside was for the purpose of food-getting, and when the economy altered, so did the patterns and modes of travel. Trapping, for instance

required travel over longer distances to set and visit traps. Dogs, instead of being camp followers became working animals, carried packs in summer and pulled the introduced toboggan-sleds in winter. These two changes, trapping and dog team travel, made winter the time to cover the greatest distances. This was in direct contrast to the precontact travel pattern, when summer movement by water was most extensive. The use of dogs was marked by an increase in their number; teams used to visit traplines required six to eight animals. This provided speed and good load capacity, but also meant an increase in the amount of country food necessary to support the animals - both when they were working and when they were not. This was possible, however, because of the introduction of efficient tools, like the rifle and fish net. Dog team use was most extensive in the 1940's and 1950's after which a few men gave up trapping for other employment.

In recent years the skidoo or snowmobile became popular, especially for smaller jobs of hauling and travel around the settlement. They are also used on short day-length traplines. Dogs have not disappeared altogether, and seem to be recovering their popularity a little in the last couple of years. Skidoos, however, are well established and are more popular as wage employment increases. Cash is required to fuel them although they need not be "fed" during summer.

Summer was the time for travel, trade and socializing in precontact times. Birch bark canoes were used by most Kutchin, although because the local birch trees were too small the Vunta Kutchin had to acquire their canoes in trade from the people of the Yukon Flats. "The principal exports from here were caribou and dried fish; the chief imports were spears and birch bark canoes" (Leechman, 1954:26). Canoes are now covered by canvas instead of birch bark. In 1963 Balikci (1963:47) reported the canvas canoe as indispensable.

A common watercraft nowadays is the flat-bottomed, snub-nosed river boat. They are of the order of 16 - 20 or more feet in length, a beam of 5 - 6 feet and drawing only a few inches of water. They are propelled by outboard motors, and used for distance travel on the river, either to and from Crow Flats, or up and down the Porcupine on caribou hunting expeditions. Old style moose-skin boats, common in the upper Porcupine and Peel drainage are not now made although canvas is occasionally used to cover a similar style of frame. But rafts and other old methods of water travel are more or less gone (Balikci op. cit.). Hunting, Fishing and Trapping: After fur posts and trade goods became available and after the new religion was introduced, there were marked changes in the way of life. The major effect was to introduce two new focii into the life of Indian people. The fort became a place, chosen by

the whites to which the natives were drawn for trade; this meant a new locational focus in their landscape. The people also came when the goods arrived or on religious festivals of Christmas and Easter, or when the clergy called. This represents a change in the temporal focus of Indian life.

Encouragement to hunt and trap for fine furs required a reallocation of time from other winter activity. It was possible in part because the introduction of the rifle permitted an individual hunter to obtain game - especially caribou and moose - without the necessary group or communal cooperation previously necessary. The use of the surround or corral, was efficient enough but it required labour to man it. The rifle replaced babiche snares, and gradually the flexibility of the rifle as a hunting tool was adapted to hunting caribou as they migrated over river crossings. The Porcupine River became the important axis for the caribou hunt, and Thomas' surround north of the Old Crow Flats was entirely abandoned in the early part of this century. The river was important to trapping as well because it allowed people to move widely throughout the country in late fall before freeze-up, as they established bases for winter trapping. White traders helped the process by establishing the temporary stores at Whitestone Village, Johnson Village, etc., and thus in turn helped to localize native residences along the Porcupine

(Figure 4). Nevertheless, the autumn hunt remained the most important food harvesting event in the seasonal cycle.

Winter was trapping time. Although men had partners on occasion, trapping was for the most part a solitary activity. It was in strong contrast to the old communal meat camps and fish trap harvest, and informants today always speak of the loneliness on the trapline. Isolation gave importance to the family unit because trappers centered their families in small camps and their lines fanned out from there. The trappers in the family laid out longer lines to improve their gain, hitched 7 - 9 dogs to the toboggan for speed and distance, and increased the frequency of trapcheck trips. The hardship of this life is well documented (Balikci, 1963:42; and Slobodin, 1962:41).

Trapping introduced and encouraged the concept of individual entrepreneurship, and property. Granted that the old corrals and fish traps "belonged" to certain families or individuals and were handed down, but there was then a strong sharing and cooperative ethic in Kutchin culture. The beginning of trade by individuals required individual traplines and territories. The location of traplines varied from year to year, so that "ownership" of an area applied to the time that a person actually trapped there. Decisions as to which trapper would occupy which area seem to have been established informally, either

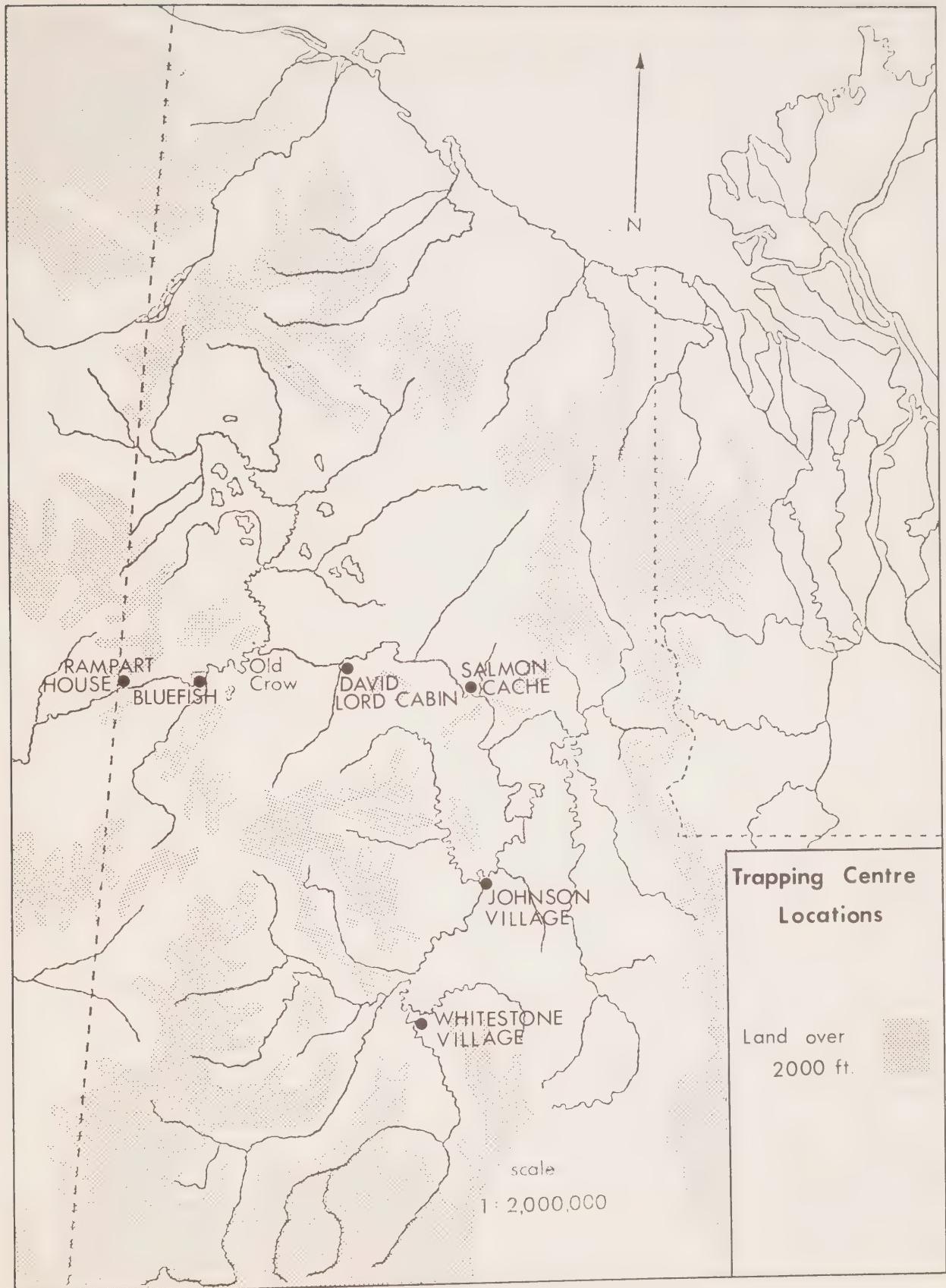


FIGURE 4

through conversation or on a first-come first-served basis, or by repeated use so that the "owner" of a line was common knowledge. There was an established code that whoever breaks trail first had right to trap that trail; he could delegate the use to any part of his trail.

The individualism of trapping moved quickly into other areas. For example in the caribou hunts, each hunter claimed the animals he shot. Even if game were scarce and trappers joined forces to hunt caribou, each man recovered his own meat. No one, however, would be allowed to starve from the lack of hunting success. Similarly fishing was done by an individual for his own family and dogs, and the catch from one man's net was not violated by another. Spots to set nets were established in much the same manner as traplines were chosen. It is worth noting, however, that one game animal, the moose, was nearly always shared in the form of a community feast.

Just as marten and mink trapping came to dominate the winter season, a new activity gained prominence in spring. Muskrats were abundant in the many lakes and streams of Crow Flats. Balikci (1963:41) states that systematic ratting did not begin in Vunta Kutchin territory until World War I. It is true, however, that sizable quantities of "musquash" pelts were traded into Fort McPherson in the latter part of the 19th century; they doubtless came from Crow Flats as well as the Mackenzie Delta.

In fact, the Vunta Kutchin were known as Rat Indians to traders. The price for rat skins increased to a high of \$4.50 in 1945 and into the late 1950's were commanding good prices (Slobodin, 1959:65). The harvesting technique required that muskrat houses be marked with stakes in early winter, so that they could be relocated even in deep snow when trapping began in March. Unbaited steel traps were placed both inside and just outside the houses; after breakup animals were shot. Muskrat trapping requires help, mainly from the family. The numbers taken are usually too many for the trapper to skin and stretch by himself. The camps on the Flats are quite close together and permit greater sociability than during winter trapping. Besides, for local people the spring is the best season in the north; the temperatures are not cold, daylight is back, snow and ice conditions are great for travelling and there are no flies or mosquitoes. Ratting has a festive air about it.

After mid June people descended the Crow River from the Flats in their canvas-covered boats. Trading, visiting and the like followed. The summers passed reasonably comfortably while preparing for winter - building toboggans, repairing gear, etc. When the salmon run began in July, people were busy drying fish for their families and dogs. In August the caribou appeared and camps moved to choice locations along the river to intercept the migrations. Hunting took place as close to trapping camps as possible

so that meat, some dried, some frozen, could be easily in cache for the winter.

The fur trade played a strong conditioning role in the postcontact seasonal routine. It developed more extensive use of the land, at least geographically speaking. It fostered individualism, and altered the periods, locales, and intensity of socialization among the people.

PART II

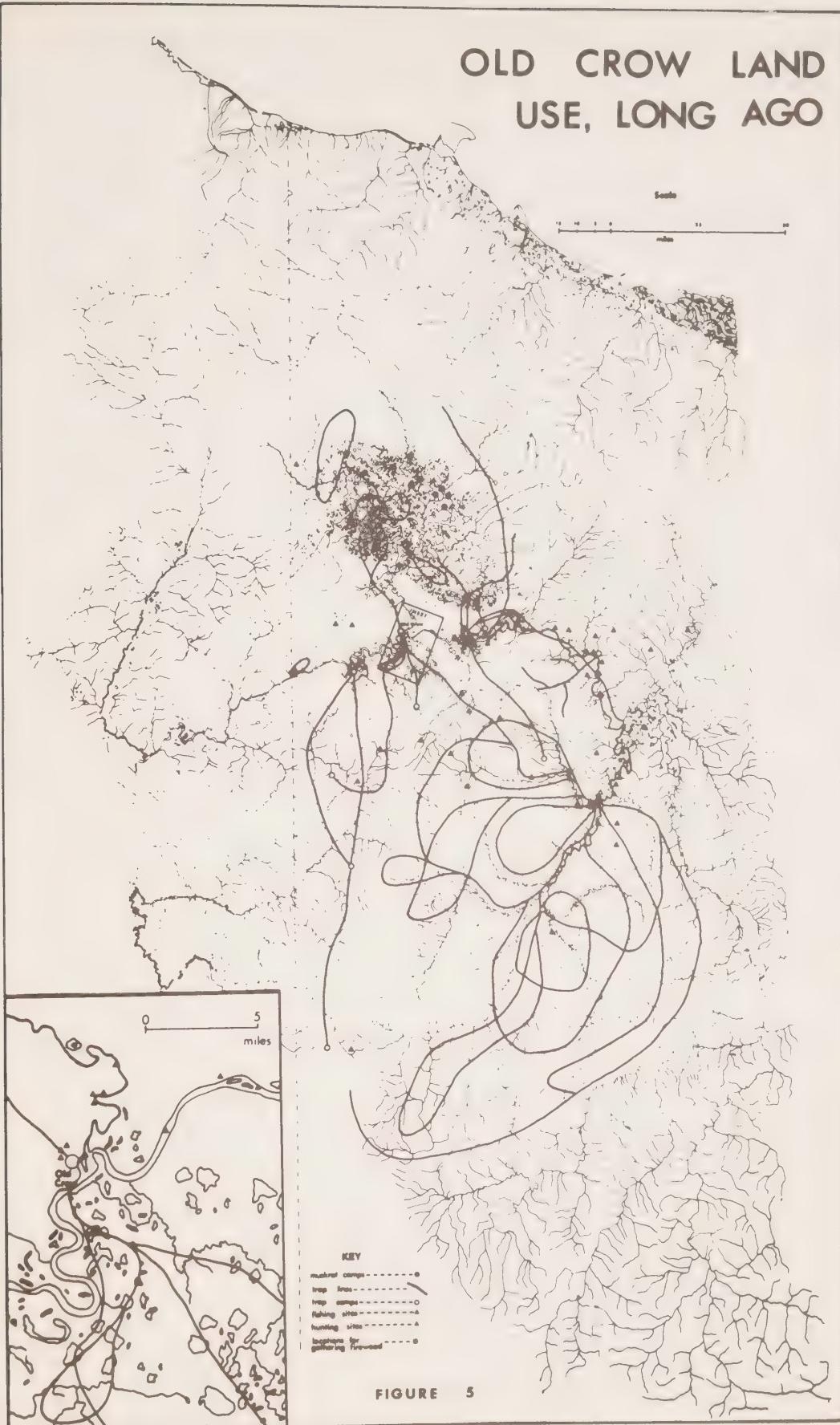
A Changing Way of Life

The Traditional Use of the Old Crow Region

The early fur trapping days meant a spread of men and their families to give extensive coverage of the land. The population became distributed in a number of small "settlements" along the Porcupine River from Ramparts House to Whitestone Village (figure 4). One or more families in individual log cabins formed trapping camps at each place and from there laid out trap lines in all different directions. In time the camps became identified with certain individuals or families and the pattern of trapping gained some stability. The winter was given to exploitation of the trapline, but spring required the people to move to Crow Flats for the muskrat season. There they maintained a second camp and after the end of rattling, they came down to Old Crow or other Porcupine River sites to trade and visit. Summer again saw the dispersal to fish camps, as near to the trapping camp as possible and people prepared dried fish. Hunting caribou in the fall occurred at crossing points of the Porcupine, if possible near to the trap camp.

The extensive use of the land as it once occurred is shown on figure 5. The map is set in the time-frame of long ago, which for practical purposes

# OLD CROW LAND USE, LONG AGO



means the 1930's and 1940's since it is built up of the recollections of informants born in this century. It is obvious that the Old Crow people ranged the whole length of Porcupine River from the border into the upper branches of the river source. Traplines and hunting camps covered nearly 25,000 square miles of land. One can easily see the clear influence of the river as the transportation artery and winter camp location. Most of the traplines lay to the south with a certain tendency to follow tributary valleys, and the density gives quite even coverage to the harvest of the fur country. The region was well regarded as productive of marten and mink. Hunting locations, on the other hand, show some concentration along the river, although a few winter kills were apparently made by trappers out on their lines, usually not too far from camp. The pattern of land use on the Old Crow Flats, the lake-strewn area north of the village, maps 19 rattling camps.

The village of Old Crow in the 1950's took on more of the characteristics of a settlement and people gravitated to it. They built log houses to replace the summer tents and the length of time spent in and around the village increased. This in turn had an effect upon the land use pattern; reluctant to depart as far from the village as in the old days, families occupied camps closer to Old Crow. The map for 1960 land use illustrates it (figure 6). One winter camp was at Johnson Village, and

# OLD CROW LAND USE, 1960



another at Salmon Cache; there were three or four other camps nearer town. Apart from the two outlying camps, most of the trap lines radiated from Old Crow, both north and south. The pattern of land use on Crow Flats indicates slightly fewer camps than in the old days, but the ratting continued as a fur harvesting and social season. Meat hunting sites are fewer than long ago but there is an increase in fishing locations, many close to Old Crow itself. The area of land actually covered by hunting and trapping had by 1960 been reduced from 25,000 square miles to 15,000 square miles. A noticeable change in land use is evident in the concentration of wood cutting sites near the village. When the population was dispersed, wood was handy to every home. As the population was increasingly localized in Old Crow people had to go farther from town to find adequate stands of firewood. In 1961, a year later, Balikci recorded one winter trapping camp outside the village at Salmon Cache (Balikci, 1963; 61). Rumour has it that this person chose a permanent bush residence so that he and his illegal brew pot were away from the prying eyes of the R.C.M.P.

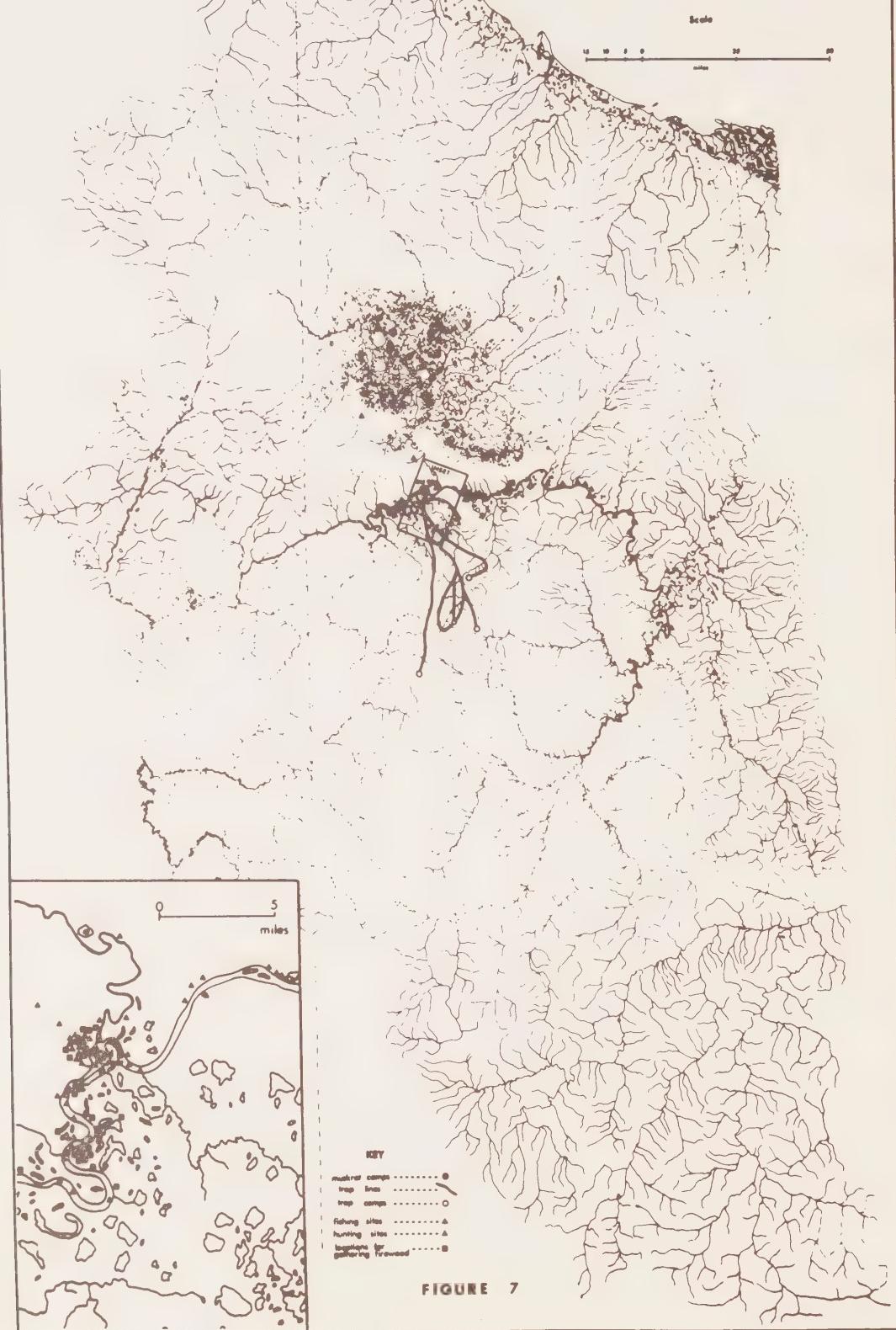
About 1950, registered trapping areas were introduced into the Mackenzie Delta as a means of developing a statistical basis for analyzing muskrat productivity (I. McT. Cowan, personal communication). Government was beginning to try regulations ostensibly aimed at wildlife conservation. The concept was transferred with some

resistence to the Crow Flats and individuals were registered to the trapping areas shown on the accompanying map (figure 8). By "freezing" the pattern of ratting in this way, the effect lingers even to the present, partly because cabins or camps established in the late 1950's are still being used by their builders or members of the family.

The thirteen-year interval from 1960 until the field season in 1973 has seen all the people move to a permanent residence in Old Crow; there are still one or two winter camps near the village, but they are occupied only intermittently on a commuting basis. The map of 1973 land use (figure 7) dramatically depicts the consequences of town life. Winter trapping and traplines all originate in Old Crow and are of "weekend" travel length. In fact at least one man trapped while holding a wage job. It also has affected the hunting pattern. The map plots hunting locations almost exclusively along the Porcupine River. A few people travelled 150 miles or more up river to hunt, and made excursions of several days. Essentially, however, hunting trips are short and executed in the autumn.

The success in hunting caribou nearby Old Crow is partly a function of more hunters. The ratting season continues to be an attractive period in the bush, and the pattern of ratting camps still matches the registered

# OLD CROW LAND USE, 1973



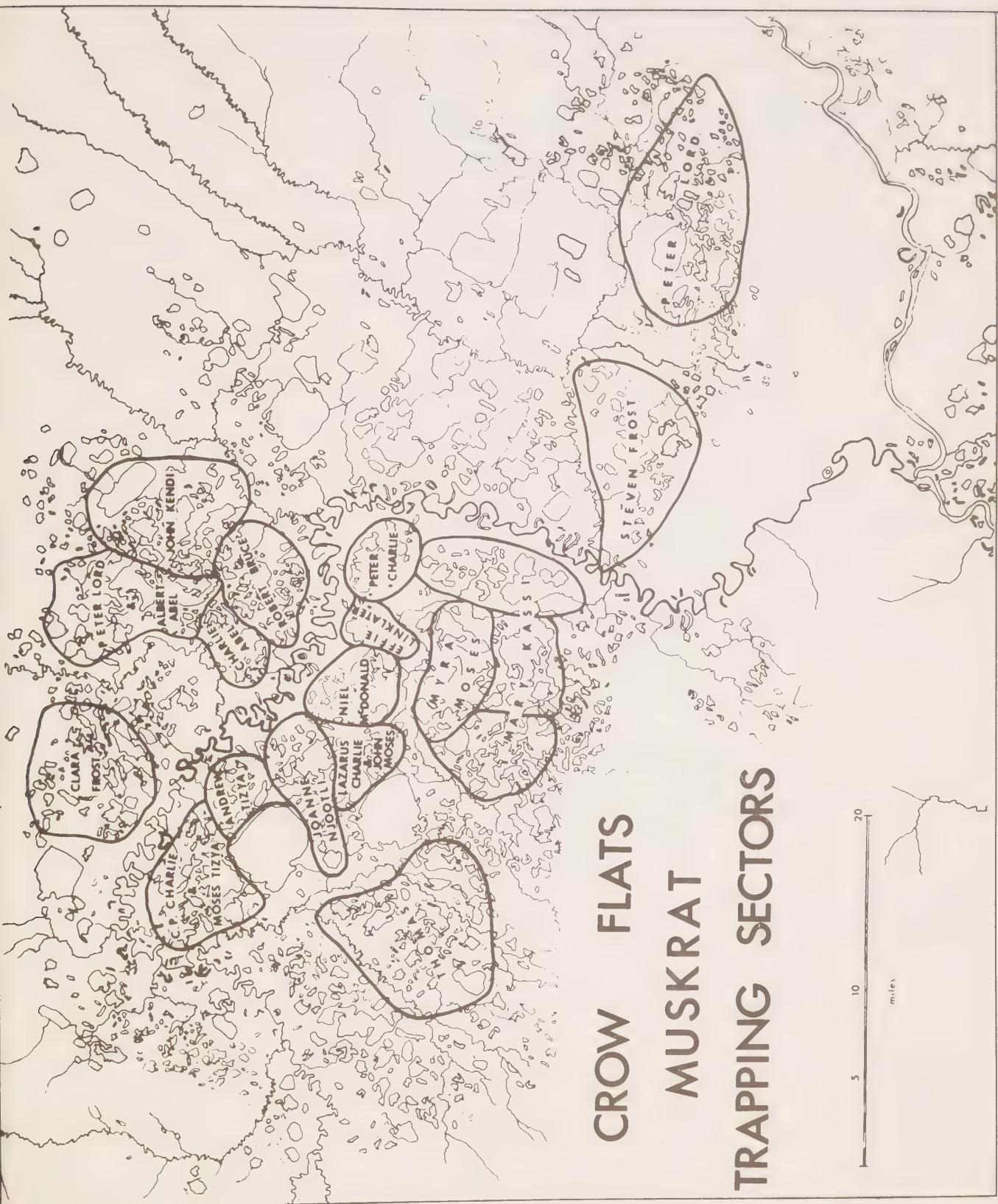


FIGURE 8

areas shown on figure 8. The use of the Flats for muskrat trapping in many ways represents the only residual geographically extensive use of the land. With people in Old Crow in summer, the fishing sites have increased in numbers and concentration close to the village. It will be obvious, too, that the people have to go farther from town for fire wood than they did a decade earlier. The areal use of land appears to have shrunk ten-fold to about 1500 or more square miles.

The mapping of land use at time intervals shows the changes in area of use, but tells nothing of the intensity of use pressures on the reduced area. To get a picture of use intensity, an attempt was made to measure the productivity of the enterprise. For example, the lengths of traplines can be accumulated and matched against the fur catch to give a per/mile productivity value. Table 1 summarizes the results.

Table 1.

Productivity of winter traplines in Old Crow by mile of line length and per trapper.

Long Ago

Average length of line	57 miles
Number trappers responding	22

	No.	Number/mile	Number/trapper
marten	344	6.0	15.6
mink	116	2.0	5.3
weasel	381	6.7	17.3
lynx	60	1.1	2.7
fox	80	1.4	3.6
beaver	24	0.4	1.1
wolverine	16	0.3	0.7
wolf	9	0.2	0.4

Table 1. (continued)

1960

Average length of line                        50 miles  
 Number trappers responding                    23

	No.	Number/mile	Number/trapper
marten	319	6.4	13.9
mink	262	5.2	11.4
weasel	225	4.5	9.8
lynx	48	1.0	2.1
fox	43	0.9	1.9
beaver	25	0.5	1.1
wolverine	36	0.7	1.6
wolf	4	0.1	0.2

1973

Average length of line                        30 miles  
 Number trappers responding                    7

	No.	Number/mile	Number/trapper
marten	103	3.4	14.7
mink	47	1.6	6.7
weasel	9	0.3	1.3
lynx	19	0.6	2.7
fox	4	0.1	0.6
beaver	10	0.3	1.4
wolverine	0	-	-
wolf	0	-	-

The table is not meant to show a sophisticated analysis, but it does indicate that for fur species like marten and beaver, and to an extent, mink, weasels, lynx and foxes, the ratios per average trapline length and number of trappers show that productivity is generally even. The decline in returns does not seem to be a function of resource depletion, but of reduced trapping efforts. If the trend to leave winter trapping could be reversed, then productivity could rise. At the same time, the decline in total area used does not alter much the intensity of use on a "per acre" basis.

A similar pattern emerges when looking at the game harvest; it is simply sufficient to report that as best people could recall, each hunter took as many caribou long ago, and in 1960, as they reported in 1973. Moose, on the other hand, has a lower per hunter productivity now. It indicates the continued importance of caribou in the lives of the people, in spite of settlement living; people organize to go out and get their share of caribou meat. This does not apply to moose hunting, a more difficult and less certain activity. In fact, the immediate environs of Old Crow have had most of the moose cleaned out, and hunters have to travel farther and back in from the river.

Unlike winter trapping, the number of hunters has not declined but has remained stable over recent years. The autumn hunt is most important, but people now

have greater mobility and efficient means of capturing large quantities of game in a short time. The river is used to transport food home. At the present time hunters are able to collect a meat supply in less time than it took in the past and they spend less time on the land. This is partly because each person is out for a special purpose, to shoot caribou, and is engaging in specialized land use. The specialization fosters the view of high utility attached to the land, and hunting intensity has remained constant.

Unlike other "off the land" activities, muskrat trapping has not operated over shrinking space. It continues and in 1973, strengthened in importance. The productivity of the Flats has been very steady measured as a ratio to hunter/trapper and to the number of camps. What is marked is the increase in the number of people going after rats. Many who go spend a short time and regard the trip to the Flats as a source of pocket money, a holiday and social time. This attitude prevails among those who form quick partnerships after break-up to shoot rats with a .22. The price for shot rats is not as good as for trapped rats, but then the work is a lot easier too.

The changes in land use are most easily seen by comparing the maps, but certain points have been brought out in the discussion above. What emerges is that land activities must be viewed differently now. It is not absolutely necessary to go to the land for subsistence

with wages, pensions and, if needs be, social assistance. The land, however, is very much part of the people themselves. All of the past had its roots in the land; many individuals span the gap of cultural change in their own experiences. If life is confusing in the community now, then a retreat to the land, even for a short time, offers respite and a chance to be a man again.

The Prospect for Hunting, Trapping and Fishing  
in the Future

It has been suggested that traditional activities may remain an attractive alternative to introduced occupations in the north. However, as will emerge in reading the rest of the report, few people feel that hunting, fishing or trapping will be as attractive. The ones who believe these activities will remain popular are older people, most of whom no longer participate. It may be interesting to note that four of the best trappers and hunters in Old Crow have steady year-around jobs but still manage to shoot a few caribou, and one still engages in winter trapping.

One informant has stated that you must grow up hunting and trapping to know the skills well enough for it to be a lucrative proposition. Few, if any of the younger people have been brought up in this tradition.

Most older people have experienced this way of life but were attracted to jobs when the fur prices declined in the 1950's. They say that they were glad to have the jobs. Except for the last few years fur prices have not generally increased and people have stayed at their jobs. In the last couple of years, however, when fur prices have been higher, there have also been jobs available in Old Crow and people have spent little time in the bush.

This past year a half dozen men were winter trapping. The spring ratting, however, was a good season - not necessarily for the amount of muskrat that were trapped or shot, but for the number of people that took part in the trek to the Flats. It will be interesting to see next spring whether this trend continues.

It has been suggested that the young people don't want to learn the traditional ways. An example may be cited here. At the first sighting of caribou on Crow Mountain, two young people went after them, shooting some but scaring the rest off back up the valley. The older people were waiting at the river crossing for these animals. This may be an example of the impatience, or, as one older person has stated, the lack of management and self-discipline displayed in the younger generations. To get enough muskrat to be worthwhile one must sit on the lake for a long time. "You can't catch rats from your tent or from your house in Old Crow." The young people,

says one informant, are not used to the hard life of winter trapping - being isolated in the bush. The hard times come mainly when you run out of food or dog food, or when you don't get many furs on a long haul. At this point many quit and come back to their parents' home.

The whites showed the people how to trap and now they are showing the people how to do other things. Schooling has changed the perception of the children. When they get older and go to Whitehorse they see a vastly different, affluent life-style. When a younger person gets a job he spends all his money recklessly attempting to copy the affluent nature of the whites. The net result is that he has "nothing to show for it."

In the north it now seems that a native person needs a job to keep pace with the cost of living in his more and more settlement-oriented life-style. There are some young people who have the urge to give trapping a major effort. What will they do when they see their town peers just as well off as they using less energy? One informant says that none of the young people will accept the isolation of the bush and miss the comradeship and "good times" of the town.

Finally, another informant has stated that no matter what comes or doesn't come to Old Crow, the native people of the town will progressively become white. Even if

the whites don't come in and change the town, the younger people of Old Crow find it impossible to see how hunting and trapping could become more attractive for the young people.

Living off the land

The country round about Old Crow continues to supply much of the needs of the people. The houses are mostly of local logs and they are heated with wood fuel. Both game and fur appear to be available in undiminished amounts, and are still gathered. There is a problem, however, in establishing the level of importance country produce has in the standard of living for native people.

Fine furs trapped by Old Crow people provide cash incomes, thus it is easy to convert trapping into a monetary value. It can be placed alongside other cash income from wages, pensions and other transfer payments so that an aggregate income figure is approached. Difficulty arises in attaching a dollar value to fish and game products which are consumed by people and dogs. The common solution to the problem is to identify the major game foods, like caribou, moose and bear, and then assign an arbitrary value per pound of flesh. For example caribou may be valued at 75¢ per lb., bear at 50¢ per lb. etc. Other solutions use the value of replacement meat, usually beef, as a measure of worth for country food. The plain truth is, however, native people do not buy beef or pork to match the amount of meat they would eat if caribou were in their caches. The high cost of beefsteak was over \$3.00 per lb. in Old Crow in June 1973 - and the level of cash income strictly controls the freedom to replace missing country food. This report attempts another way to measure the importance of game and fish. It assumes that country food is preferred and

that people will eat mostly meat when it is available. Thus when the caches are full of dried or frozen meat and fish, the family exists in a "state of plenty". On the other hand, when the cache is empty, people cannot eat so much of their preferred diet, and in effect their standard of living is cut back. In this way it is possible to tell the number of people who satisfy their dietary needs and in what proportion they do so, measured against an ideal "state of plenty". The food of dogs may be looked at in a similar way to see the extent to which owners depend on game and fish for support of their animals.

#### Fish and Game in 1973 and Comparisons with the Past

The assessment of fish and game for a production-consumption analysis requires all to be converted to a standard, namely weight. Old Crow produced an estimated 30,200 lbs. of fish in 1973. Meat from game is estimated at 105,150 lbs. and the muskrat crop produced about 10,200 lbs. of meat. In aggregate, 145,550 lbs. of flesh to be consumed by 142 people and about 226 dogs. Estimates were then drawn for the probable annual consumption of fish and game by people and dogs assuming there would be a ready supply at all times; an estimate of Old Crow requirements comes out roughly to 288,000 lbs. of fish and game. The first comparison suggests that something over half of the diet needs of the community are met by fish and game.

It has been pointed out earlier that while hunting or trapping for muskrats may take place in partnership or groups, the game collected belongs to individuals. Similarly, fish

belong to the man who fishes. It is necessary, therefore, to measure the country food taken by individual hunters and fishermen, and reassign that food to the family and number of dogs he supports. Family gain may be measured against family need, and surpluses or deficits observed.

Table 2 gives the fish catch for Old Crow in 1973. Twenty-two hunter/trapper families took fish, mostly chum salmon, for a total weight of 30,005 lbs. Half the fishermen appear to fish on a less than intensive basis, only going after the salmon run and leaving nets in for short periods; they get less than 1,000 lbs. each. Serious fishing is undertaken by about a quarter of the fishermen, bringing in 2000 to over 3000 lbs. The remaining 25% of fishermen harvest between 1000 and 2000 lbs. Fish is eaten fresh or preserved by drying and freezing. Certain species like chinook salmon, grayling and whitefish are favoured for human consumption but most fish is for dog food.

The 1973 catch may be compared with past years. Table 3 displays the data. What is immediately obvious is the effect of the cyclical population of salmon, with 1967 and 1971 the peak years for chum. In other respects, 1970 looked like a poor year, but the returns are better explained in terms of wage and other employment attracting people to other occupations during the summer. The Table indicates a slight decline in the trend for taking fish. The likely explanation is in part the decline in dog population persuant to reduced winter trapping

Table 2  
Fish Catch Old Crow 1973

Hunter/ Trapper Family No.	Chum Salmon	Chinook Salmon	Grayling	Hump White- fish	Little White- fish	Jack Fish	Losch	Sucker	Inconnu in Pounds	Estimated Weight
1 200	20	75	20	25	30	50	30	50	1300	480
2	240			4						2600
4 500		50	50	20	50	100	30			15
5					8					3715
6 1500	6	25	100	35	10	150	25			1600
8 400										1000
9 100		150	70	40			25			1885
10 350	7	15	110	50			32			770
11		30	10	300	20	20	15	70		385
12 50			20	15			30			160
13 40										580
14 60			10	60	20		60	25		3025
15 300		110	17	14	200	90	350	70		675
16 150		20	7	11				3		1400
17 300			30	30		20		20		3000
18 500		300	100	50		100				

Continued . . . .

Table 2  
(Continued)

Hunter/ Trapper Family No.	Dog Salmon	King Salmon	Grayling	White- fish	Hump- White- fish	Little White- fish	Jack fish	Losch	Sucker	Inconnu	Estimated Weight in Pounds
19	165		10	25	80	80			16		1025
20	15		10	3	25	8	15		6	2	175
21	300		50	50	50	30	40	20	30		2035
23	50		10	10		10	10				325
24	100										500
26	200		60	30	30	20	20		30	30	1460
27	300		50	20		20	10	20	40		1895
Total Fishing Families = 22	5580	13	1100	562	870	647	323	851	498	30005	

Source: Field data. Weights are estimated from weight/length correlations in Bryan, J.E. et al., 1973: 36.

Table 3

## Old Crow Fisheries 1967-73

Type	1967	1968	1969	1970	1971	1972	1973
Chinook	43	38	27	8	-	81	13
Chum	11,768	10,000	3,377	620	10,000	4,570	5,780
Coho	-	261	34	-	-	25	-
Whitefish	1,124	2,550	734	195	-	650	870
Other*	2,001	2,451	657	368	3,000	4,100	4,232
Totals	14,936	15,300	4,829	1,191	13,000	9,426	10,895

\* Others = grayling, sucker, jackfish, hump whitefish, losch, inconnu.

Source: 1967-70 Bissett and Meldrum, 1973: 37.

1971-72 Steigenberger, L.W. et al, December 1973: 42.

1973 Field Data

and snowmobiles. No evidence exists to suggest the resource is being harmfully used or any species is being overfished.

The game and muskrat collected in 1973 by Old Crow people is on Table 4. In all, twenty-seven hunter/trapper families have part of their support from country food. Most of the total weight 102,500 lbs. of game meat is caribou flesh. In addition, over 10,000 lbs. of muskrat meat was available last spring. Any hunter family that is able to have available more than 3,000 lbs. of meat has one or more serious hunters. Forty-four percent of the families are well supplied with game, most using 4,000 to 6,000 lbs.; one family had 14,000 lbs. brought home by three hunters.

The caribou hunt is most important and the structure of the 1973 hunt is shown on Table 5. In all, 38 men went out, some several times, and brought in a total of 751 animals or about 20 animals per hunter; on twelve occasions hunters got more than 30 animals each, and one person shot and removed 60 caribou. The large harvest of caribou is a somewhat sensitive issue in Old Crow because it is expected that the demand for meat and its partial use for feeding dogs will be thought prodigal by outsiders. There may indeed be occasional waste but there is nothing like a willful slaughter for some desirable part of the beast and the rest left to rot. The numbers taken should also be measured against the estimates of herd size that pass by Old Crow. The Porcupine Herd has been variously estimated between 60,000 and 120,000 animals, so that the hunters of Old Crow are not likely overharvesting.

Table 4

Game and Muskrat Take Old Crow 1973

Hunter/ Trapper Family								Estimated Weight of Meat in lbs.	
No.		Caribou	Moose	Rabbit	Birds	Muskrat	Game	Muskrat	
1		3					625		
2		10	.5	5	20	573	1,525	430	
3					20	50	20	40	
4		40	.5			280	5,250	210	
5		6		24	12	238	800	180	
6		70	1.0		41	1,060	9,290	795	
7		7	1.0				1,375		
8		1				250	125	185	
9		18	1.5				3,000		
10		54	1.5	12	20	1,360	7,540	1,020	
11		12	1.0		11	274	2,010	205	
12		15			10	500	1,885	375	
13		15	1.5	3		350	2,630	260	
14		26			35	575	3,285	430	
15		92	5.0	30	18	1,550	14,060	1,160	
16		9	6.0	9	25	900	4,165	675	
17		20	1.0	30	15	560	2,560	420	
18		70		9	4	850	8,770	640	
19		46			20	400	5,770	300	
20		29			11	750	3,660	460	
21		10					1,250		
22		32		20	10	100	4,040	75	
23		25				930	330	700	
24		20			20	213	2,520	160	
25		51		20	20	462	6,425	345	
26		20	1.0		10	300	3,010	225	
27		50	.5	40	20	1,200	6,580	900	
<b>Total Hunter/ Trapper</b>		<b>751</b>	<b>22.0</b>	<b>202</b>	<b>342</b>	<b>13,725</b>	<b>102,500</b>	<b>10,190</b>	

## Frappier Families

$$= 27$$

二

Source: Field data. Weights calculated at 125 lbs. per caribou, 500 lbs. per moose, birds and rabbits 1.5 lbs. each, and muskrats .75 lbs. per animal.

## Structure of 1973 Caribou Hunt

<u>Frequency of Kills</u>	<u>X</u>	<u>Animals Taken</u>	<u>=</u>	<u>Total Kill</u>	<u>No. of Hunters Involved</u>	
1	X	1	=	1	1	
1		3		3	1	
1		4		4	1	
1		5		5	1	
2		6		12	2	
1		7		7	1	
1		9		9	1	
2		10		20	3	
2		15		30	2	
1		16		16	1	
1		17		17	3	
4		20		80	6	
1		24		24	2	
2		25		50	2	
3		30		90	5	
1		31		31	3	
1		32		32	1	
1		37		37	2	
2		40		80	2	
1		46		46	2	
1		47		47	1	
1		50		50	1	
1		60		60	1	
<hr/>				751	<hr/>	
				45 less 7 people recorded in more than one hunt		

Number of Caribou per hunter: 19.76Total hunters: 38Number of Social Units Represented

<u>Total Hunters</u>	<u>Individuals</u>	<u>Nuclear Family</u>	<u>Extended Family</u>
38	2	27	9

Source: Field Data.

The structure of the 1973 Moose Hunt is in Table 6: there were 22 moose taken by 17 men. Moose, a solitary animal, is difficult to hunt. Recently, however, light aircraft and helicopters based in Old Crow for survey work have been helpful to local hunters. The hunt is usually organized after they know where to find the moose and it may account for the relative success. It is not known if such a level of harvest can be sustained in the 25 mile radius of Old Crow from which these animals came.

Rabbits and birds are regarded as bringing diversity to the diet. Geese and ducks are shot in the spring and rabbits snared or hunted in the winter months. The seeming low level of this activity does produce a considerable volume of meat.

Game returns from 1963 to 1973 are shown on Table 7. A review of the data shows 1973 as the best caribou year since 1965; the average for the period was 613 per year. There is variation from year to year, and a trend line fitted to the data including 1972 shows a decline - 35 fewer animals each year. The 1973 hunt breaks the spell.

The two most important components of the food supply, caribou and salmon, are available on a pronounced seasonal rhythm. It is not surprising to observe, therefore, that the country food production shows a pronounced seasonal peak. Figure 9 gives the pattern for an average Old Crow hunter/trapper family. Some game, like muskrats and migratory birds are available during a restricted season and used when harvested; little attempt is made to preserve a surplus and after feeding

Table 6  
Structure of 1973 Moose Hunt

<u>Frequency of Kills</u>	X	<u>Animals Taken</u>	=	<u>Total Kill</u>	<u>No. Hunters Involved</u>
9	X	1	=	9	13
2		2		4	4
1		3		3	2
1		6		6	1
				22	20 less 3 people recorded in more than one hunt
					Total Hunters <u>17</u>

No. Moose Per Hunter = 1.29

Number of Social Units Represented

<u>Total Hunters</u>	<u>Individuals</u>	<u>Nuclear Family</u>	<u>Extended Family</u>
17	2	10	5

Source: Field data.

Table 7

Old Crow Game Returns 1963-73

	1963-64	1964-65	1965-66*	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
Caribou	706	769	-	592	590	557	478	503	573	751
Moose	10	7	-	22	17	24	18	11	26	22
Bear	1	1	-	4	3	1	5	1	2	0
Geese	15	3	-	4	11	25	5	0	12	
Ducks	155	110	-	28	77	50	16	20	44	342
Ptarmigan	196	12	-	15	10	27	50	100	43	
Rabbits	-	-	-	-	-	-	-	-	-	202

\*Missing

Source: 1963-64 to

1971-72: General Hunting Licences, Game Branch, Whitehorse.

1972-73: Field Data.

Country Food Production: Old Crow  
Hunter/Trapper Family in 1973

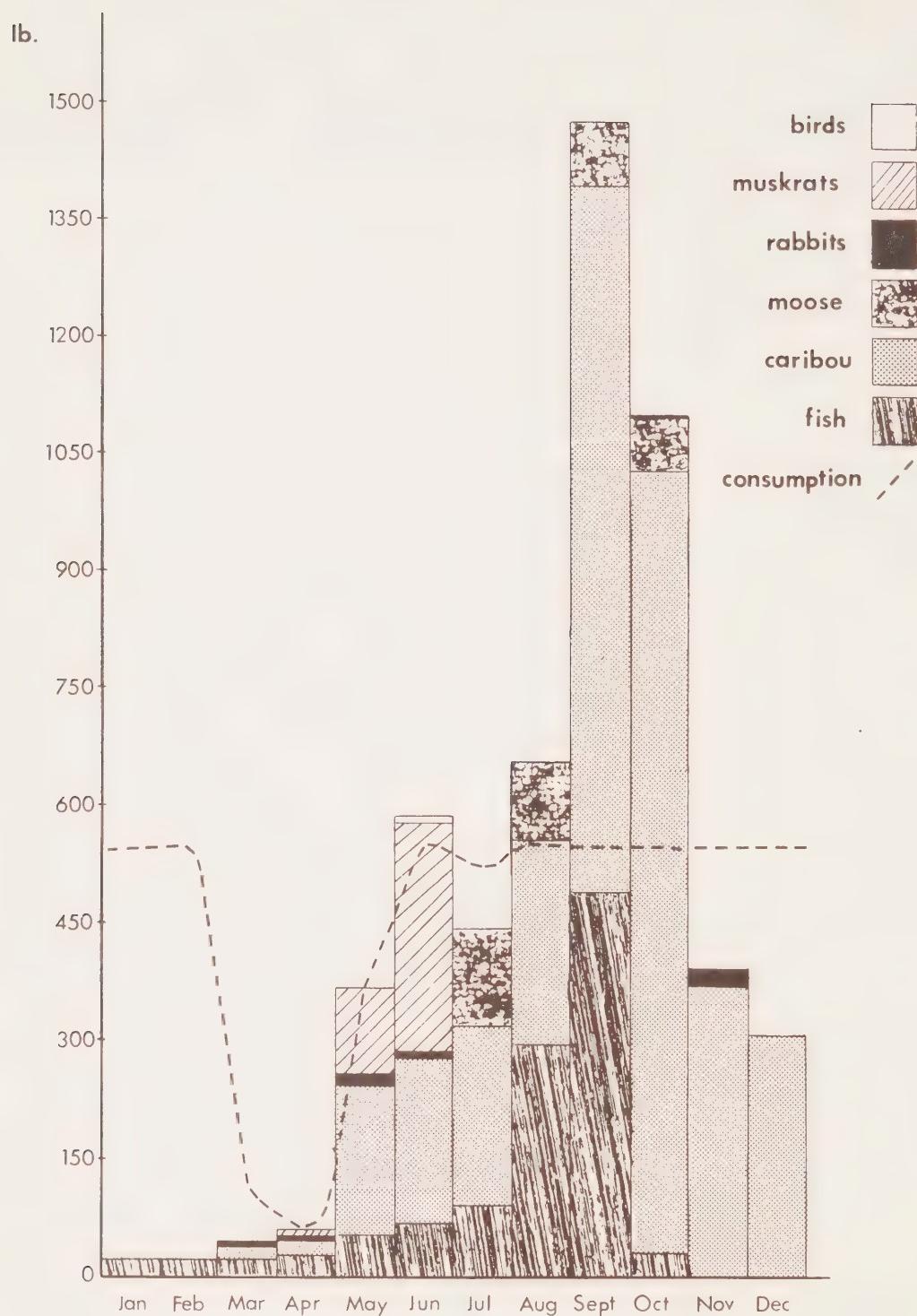


FIGURE 9

dogs there can be some wastage. Rabbits and ptarmigan are eaten more or less when caught, and may become relatively important in mid and late winter if the caribou and fish supply is down. The graph also shows an hypothesized consumption level and rate. On the basis of surplus carry-over, Old Crow trapper/hunters had enough country food for eight months of the year. The surplus ran out at the end of February and when ratting began, people had to get a "grub-stake". The importance of rat meat in 1973 is evident in May and June. In June it permitted the average family to overcome the deficit country food budget. Thus while ratting may vary in attractiveness because of price variation, rats as a source of food for people and dogs is an influence in the decision to go to the Flats.

#### Consumption of Country Food

The role of country food in the domestic food budget for northern people and dogs can only be approximated. Usher (1971:Vol.II) has offered some experience and data about consumption patterns for Eskimo trappers. For the purposes of developing a food budget for Old Crow, the guidance in Usher has been used. This report assumes that meat or fish will form the bulk of human diet when it is available. Thus an upper level of consumption was calculated at a rate of 5 lbs./adult and 1.5-2 lbs./child per day throughout the year (Usher,op.cit.,:73). Table 8 lists the families in Old Crow, and against each one that uses country food, is the "required" amount. From

Table 8  
Family Requirements and Consumption of Country Food 1973

Family No.	Persons Per Family	Estimated lbs. of Meat and Fish Required Per Family	Estimated lbs. of Meat and Fish Consumed	Consumed Food As % of Required Food	Subsistence Class
		Fish	Meat	Muskrats	Total
1	1	1825	625	625	34.2%
2	1	1825	480	1345	100 +
3	4	4740	20	40	1.2
4	11	8580	690	5120	76.0
5	5	5840	15	780	16.0
6	8	9490	935	8555	100 +
7	9	8760	1340	1340	15.3
8	2	2375	400	125	150
9	7	8945	750	2925	3675
10	5	7850	615	7220	15
11	8	8205	85	2010	2095
12	9	7490	105	1840	160
13	6	8945	2570	160	2730
14	7	7665	105	3200	250
15	5	9125	625	8340	200
					9165
					100 +
					I

Continued . . . .

Table 8  
(Continued)

Family No.	Persons Per Family	Estimated lbs. of Meat and Fish Required Per Family	Estimated lbs. of Meat and Fish Consumed	Consumed Food As % of Required Food	Subsistence Class
			Fish Meat	Muskrats	Total
16	4	4745	490	4165	480
17	3	4200	350	2560	120
18	9	11315	825	8770	230
19	8	9490	130	5635	300
20	4	7300	20	3560	360
21	8	6945	510	4040	75
22	3	4200		1250	1250
23	1	1825	30	1095	120
24	2	3650	125	2455	70
25	4	7300		6265	75
26	2	3650		375	3000
27	2	3650		425	2830
28	5	7845		0	0
29	12	11680		0	0
30	1	1825		0	0
					Unknown
					0
					0

Continued . . .

Table 8  
(Continued)

Family No.	Persons Per Family	Estimated lbs. of Meat and Fish Required Per Family	Estimated lbs. of Fish Consumed	Fish	Meat	Muskrats	Total	Consumed Food As % of Required Food	Subsistence Class
31	7	6390					Unknown		II
32	2	3650	50	2030	40	2120	58.1		
33	2	2920	0	0	0	0	0	0	
34	2	2000	0	0	0	0	0	0	
35	1	1800	0	0	0	0	0	0	
36	1	1000	0	0	0	0	0	0	
37	1	1100	0	0	0	0	0	0	
38	6	8200					Unknown		
39	3	4200					Unknown		
40	1	1825					Unknown		
41	1	1100	0	0	0	0	0	0	
								106,805	55.29%
								225,465	
183									

Source: Field data.

the reported returns it is possible to see the actual amount of fish, game and muskrat meat consumed by the family. Not all of the game and fish is used by humans, for each hunter allocates a portion for dog feed. Some produce, like fish is mostly fed to dogs, and the human consumption has been estimated at 25% of the catch unless field data specified otherwise. Similarly, during ratting season, the calculation assumes that dogs were fed 2 rats each/day for the 42 days of the 1973 season, and each person was allocated 4 rats/day unless a respondent gave specific information. Other game is basically for human consumption although surpluses can go to dogs. Usher (1971: II:35) reports that at Sachs Harbour 97.5% of the caribou is used by humans and 2.5% for dogs; these proportions have applied here.

It is possible to compare the estimated required food against the estimated consumed food for each family and the Table shows the consumed as a percentage of required. A classification into "subsistence classes" was made on a quartile basis, i.e. Class I had 75% or more of diet need supplied by country food, Class II had 50-75% supplied by country food, Class III had 25-50% supplied, and Class IV gained < 25% from game and fish. The results show that 55% of the food needed by Old Crow people in 1973 came from the land. Moreover, the distribution of subsistence classes shows that 10 families (51 people) are in Class I; 9 families (37 people) are in Class II; 6 families (35 people) are in Class III; and 3 families (18 people) are in Class IV. There are altogether 28 families with a total

of 141 people or 77% of all the people that depend to some extent upon the land and its bounty. Table 9 summarizes the conclusions.

Table 9

<u>Amount of Country Food in diet</u>	<u>Class I &gt;75%</u>	<u>Class II 50-74%</u>	<u>Class III 25-49%</u>	<u>Class IV &lt;25%</u>
No. Families	10	9	6	3
No. People	51	37	35	18
% of total population	28%	20%	19%	10%

= 77% of Old Crow Native Population.

#### Country Food Consumed by Dogs 1973

The dog population in Old Crow is surprisingly high. In several other northern communities, the snowmobile has competed successfully with dog teams and the number of dogs declined accordingly. In Old Crow the dogs are coming back and field estimates place the population at about 226. To calculate the food required for dogs we followed the lead of Usher (1971: II: 57) and slightly adapted it to give each dog 100 days @ 2 lbs./day, 130 days @ 1.5 lbs./day and 70 days @ .75 lbs./day. This takes account of the working and non-working periods of the year. On this basis, Old Crow requires 111,600 lbs. of dog food annually. While working out the consumption pattern for

humans in each family, an estimate of food allocated to dogs was also made. This was aggregated to 39,700 lbs. or about the equivalent to one large caribou per dog for the year. Such an amount is far short of the need, and the difference is made up in store-bought dog food. Nevertheless, game and especially fish are important for fueling dog teams by supplying approximately 36% of the need.

### Fur Trapping

The presence of muskrats in quantity on the Crow Flats has given a special character to fur trapping by people from Old Crow. The trek to the Flats begins in March but more people come after break-up and they stay until mid June. Each year for some time now, the returns from ratting represent over 80% of cash inflow from trapping. From the records of 24 separate years, the average annual muskrat harvest is 14,800 animals. In only four years did the returns fall outside one standard deviation of the series, in 1938 and 1958 when there were many more than average taken, and in 1969 and 1970 when the harvest was a long way down. It is suspected that the variance is a response to economic conditions and not the biology of muskrats. Job opportunities in 1970 were high, and only 12 trappers traded muskrats; in 1971, there were only 14 men who reported catching rats. In other years 26 or so trappers have gone out and there were 36 in 1973. The number of trappers increased partly because

of a higher expected price, but partly too because the Chief and Council encouraged people to go out and make proper use of their lands. Several trappers were flown to the Flats as a consequence of a couple of aircraft being based in Old Crow on other work. Because the returns were back up near the long-term average in 1973 (see Table 9a) it makes a trend in behavior hard to suggest. There are some changes in domestic arrangements which could have an influence on the pattern of trapping rats. Until this year, the school arranged to have its holidays over the ratting season to permit whole families to decamp for the Flats. As was pointed out elsewhere, a rat trapper benefits from having his family skin and stretch the returns. The presence of aircraft helped to get people to the Flats quickly and more could at least have a short period out for a modest return. Aircraft may make separation from family more tolerable, since the school year now does not provide for the release of children.\* In the winter of 1973/74, men went to stake push-ups, something which was not done at all the previous winter. Another factor that keeps the interest in muskrat trapping high is a sense of "spring release" and festivity, and even people on wage employment arrange to go on long weekends, or take part of their holidays for ratting. Consequently the number of people out ratting does not represent the number full-time trapping. Ratting is pursued mainly for extra cash which in 1973 was an average of \$900 per trapper, but it also

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\* In 1974, school did not close, but people took children out of school for ratting. The school population was down by a half.

Table 9a

	Old Crow Fur Returns 1961-73						1969-73						1971-75		
	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	-72	-73	Average
muskrat	12361	17411	14000	7860	9688	13324	11273	9461	753	5225	9798	13725	14800		
marten	4	425	248	142	84	34	104	98	13	33	76	103	143		
mink	19	165	70	14	18	4	8	29	4	25	23	47	68		
beaver	26	13	37	19	45	98	47	13	11	13	12	10	38		
lynx	2	4	17	17	19	12	3	11	1	26	24	19	-		
fox	15	22	2	3	4	1	2	0	0	0	3	3	-		
otter	0	0	0	0	1	1	0	0	0	0	3	0	-		
weasel	159	138	38	10	46	49	30	20	3	17	10	-			
wolverine	0	0	1	1	0	0	0	1	0	2	0	-			
wolf	0	1	0	0	2	2	1	0	1	4	0	-			
squirrel	31	7	0	4	0	2	7	19	0	0	0	-			

Source: General Hunting Licences; Naysmith 1971: 21; field data; R.C.M.P.

provides meat for dogs and family, and its recreational or therapeutic value should not be underestimated after a cold, dark confining winter. The income from ratting is discussed on page 91.

Winter trapping for marten, mink, lynx, beaver, weasel and others is declining in importance. For the past 9 years the returns of marten are below a long term average and the same applies to mink returns (see Table 9a). Over the last seven seasons the number of people trapping fine furs has declined from 15 in 1966-67 to 8 in 1972/73; this does not include individuals who might pick up one or two pelts on the side. Even now the trappers who trade winter furs are sometimes "moonlighting" from regular steady wage employment. A decade ago winter trapping and muskrat trapping were more complementary; if the winter returns were not good, more effort went to make up the difference out on the Flats.. With easier ways to earn cash, this no longer is true.

An approximation of fur income is given in Table 10. The amount is up sharply in 1972/73. A very good price for muskrat and a strong demand for lynx pelts are responsible. Unfortunately, fur prices behave erratically, responding much more to demand than to supply. Rumors of good prices may have helped increase the number of people who went ratting, but the numbers taken are not different from several years in the past.

The structure of the trapping season for Old Crow is shown on Table 12. It gives the catch and income distribution,

Table 10

## Fur Income 1967-73

1967-68      1968-69      1969-70      1970-71      1971-72      1972-73

	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
muskrat	\$ 7,440.18	\$ 9,934.05	\$ 737.94	\$ 6,740.25	\$ 16,460.64	\$ 34,312.50
marten	1,027.52	896.70	133.51	325.05	790.40	1,236.00
mink	128.64	512.14	59.96	283.50	373.52	470.00
beaver	591.73	177.97	142.12	137.80	190.56	450.00
lynx	59.82	309.10	22.50	440.70	643.20	2,090.00
fox	6.82	25.80	-	-	41.25	180.00
otter	17.37	-	-	-	77.64	-
weasel	27.44	16.50	9.00	1.35	7.31	15.00
wolverine	-	-	45.89	-	111.12	-
wolf	42.62	28.68	-	34.18	178.00	-
squirrel	.74	2.59	5.32	-	-	-
	\$ 9,342.88	\$11,903.53	\$ 1,156.24	\$ 7,962.83	\$18,873.64	\$ 38,753.50

Source: Field data  
Statistics Canada, Catalogue #23: 207

and shows the average trapper earned over \$1,100; on a per capita basis, it means an average income of \$430 for each member of the trapper's family. Family income by group is as follows:

Table 11

Frequency of Family Trapping income by Class in 1973

<u>Trapping Income Class</u>	<u>Number of Families</u>
\$	
< 500	3
500 - 999	8
1000 - 1499	6
1500 - 1999	1
2000 - 2499	2
2500 - 2999	1
> 3000	2

Trapping income goes towards partial support for 124 people in Old Crow, which is 68% of the community.

Table 12

## Structure of 1972-73 Trapping Season in Old Crow

Family No.	# in Family people trapper	Amount Trapped					Family's Per Trapper Income		Total Pelt Value	
		muskrat	marten	mink	beaver	lynx	fox	weasel	Total	Per Capita Income
2	1	1	1	573					\$1432.50	\$1432.50
3	4	1	50						125.00	125.00
4	11	1	280						700.00	63.33
5	6	1	238						595.00	99.17
6	8	3	1060	30					3010.00	376.25
8	2	1	250						625.00	312.50
10	5	3	1360						3400.00	685.00
11	8	1	274						1250.00	156.25
12	9	1	500						1250.00	138.89
13	7	1	350						875.00	125.00
14	7	3	575						1437.50	205.36
15	5	3	1550	30	8	15		6	6554.00	1310.80
16	4	1	700						2250.00	562.50
17	3	1	560	9	3	2		3	1762.50	587.50

Continued .....

Table 12  
(Continued)

Total Pelt Value

Family No.	# in Family	people trapper	Amount Trapped					Family Total	Per Trapper Income	Family's Per Capita Income
			muskrat	marten	mink	beaver	lynx			
18	9	2	850		14			\$2265.00	\$1132.50	\$ 251.67
19	8	1	400					1000.00	1000.00	125.00
20	4	3	750					1875.00	625.00	468.75
21	8	1	100	3			1	456.00	456.00	57.00
23	3	1	930	31			2	2818.50	2818.50	939.50
24	2	1	213				2	622.50	622.50	311.25
25	3	3	462				1	1265.00	421.67	316.25
26	2	1	300					750.00	750.00	375.00
27	2	1	1200					3000.00	3000.00	1500.00
124	36		13,725	103	47	10	19	3	10	\$38,753.50
										\$1,127.25
										\$ 430.10

### Cash Income, Wage Employment and Expenditure

Cash income in the village has its source in wage employment, self-employed activities like handicrafts and wood cutting, the sale of trapped furs, and transfer payments from pensions and children's allowances. A certain amount of social assistance has gone to Old Crow to support single female parents, children and the like. The rather private nature of income and the use of local research assistants was something of an impediment to obtaining firm and accurate data. Instead the values have been built up. For example, data on fur returns were multiplied by average prices paid. Children's allowances and old age pensions were calculated from the age structure of the population, and reported lengths of wage employment were used to approximate wage income where the rates of pay of employment opportunities were more or less common knowledge. On this basis, the following observations are possible.

#### Gross Community Cash Income, 1972/73

The people of Old Crow were in receipt of about \$315,000 in cash flow during the year. This is made up as follows:

Pensions and Allowances	\$ 45,000.00
Trapping, Woodcutting and Handicraft	49,500.00
Social Assistance	35,000.00
Wages	<u>185,500.00</u>
	\$ <u>315,000.00</u>

The \$315,000 total represents a per capita earned income of \$1,700. This may be compared with the \$3,000 average for Canada in 1971. It is considerably higher than \$800 given for earned income in Old Crow based upon the 1971 Yukon Manpower Survey (Bissett and Meldrum, 1973; 45). Part of the explanation lies in knowing the Manpower Survey did not include every income source, and 1971 wage employment was missed for people who were away; also lower fur prices and smaller pension and allowance payments were paid in 1971. Nevertheless, there are some who might think \$1,700 per person is too high to be true. The 1971 Manpower Survey gives Old Crow an earned income of \$183,000. This value can be compared against dollar expenditures by the same people at the Co-op in 1971, and the figure derived for 1972/73 compared with Co-op expenditures for that period.

Table 13

Total Cash Income for Old Crow, 1971 and 1973

	<u>1972/73</u>		<u>1970/71</u>
Cash Income	Co-op Business	Manpower Income	Co-op Business
\$315,000	\$116,250	\$183,000	\$106,300
Spent in Co-op = 37%		Spent in Co-op = 58%	

The discrepancy between the two percentages in Table 13 is explained in part by knowing the 1970/71 income lacks some items and several people. Another feature of changing time is that wage employment rose over the last two years. From July 1971 until June 1973, the wage employment mean trend increased from about 16% of the

men to 20% of the men; wage employment, and wage returns are increasing. In addition, people are spending some of their income by ordering goods in Whitehorse or Vancouver, or by "the catalogue" and having them shipped in. In 1960, for example, 80% of the people bought from one-half to all their needs from the local store. Now, in 1973, only about 50% buy from the Co-op to the same extent. This report concludes that \$315,000 is reliable as an estimate for Old Crow cash income in 1973.

#### Components of the Gross Income

##### 1. Pensions and Allowances - \$45,000

The figure is basically the aggregate of Children's Allowance @ \$20.00/month/child under 16, and Old Age Security payments of \$175.00/month/person over 65 years. The latter figure is only approximate because the basic payment and the supplement are tied to cost of living and are revised quarterly. Pensions and Allowances represent stable income features of the community and Old Age Pensioners have an income of over \$1,800, very close to the per capita average.

##### 2. Trapping, Woodcutting and Handicrafts - \$49,500

This portion of the cash income is subject to fluctuation based upon the market price for furs, the number of trappers and how hard they work. 1973 was a good year for fur prices; some items like lynx at \$110 each and \$2.50 for muskrats pushed the income level up. For the 36 people who did any trapping at all that year, the average income was about \$1,100. Woodcutting opportunities remain about

the same from year to year and men are paid \$30.00/cord. Each year the school buys wood, and the Band Office arranges payment for some wood to be used by people who are unable to cut their own. Up to \$10,000 a year has been paid for wood and any conversion to another fuel would deprive the community of that income. Handicrafts, leather-work and beading are easy to market. Three or four women in Old Crow regularly produce work and have standing orders. At least \$3,000 was realized from this occupation. The rate of production, however, cannot be increased. Regardless of demand, the women do not produce any faster. Possibly more women and girls could be encouraged to take up handiwork but it requires patience and quality is important.

Income from trapping and self-employment does not show as many families in the higher brackets as does wage employment by itself. Table 14 compares the two.

Table 14

Family Income from Trapping and Wages Compared by Income Class  
1973

<u>Income \$ Range</u>	<u>No. Families with Earning from Trapping, etc.</u>	<u>No. Families with Earning from Wages</u>
> 10,000	1	7
7,500 - 10,000	-	3
5,000 - 7,499	-	5
3,000 - 4,999	3	10
2,000 - 2,999	3	-
1,000 - 1,999	10	3
< 1,000	<u>9</u>	<u>1</u>
	<u>26</u>	<u>29</u>

Source: field data

The portion of gross income from trapping, woodcutting and handicrafts is unpredictable from year to year and is only 15% of the total. There are, however, about five or six families for whom trapping income represents more than half of their source of cash. Thus, a decline in price or trapping will have serious consequences for about 20 people, unless some other income is substituted.

### 3. Social Assistance - \$35,000

Only the aggregate data for the community was available, thus it was not possible to distribute it among family incomes.

### 4. Wage Income - \$185,500.

There were 53 wage earners in Old Crow in 1973 holding jobs for various lengths of time as shown below.

Table 15

Wage Employment by Weeks of Work, 1973

Weeks of Work	<u>45-52</u>	<u>39-45</u>	<u>32-38</u>	<u>25-31</u>	<u>18-25</u>	<u>10-17</u>	<u>10</u>
No. of People	17	1	2	3	11	8	11
Total Wage Employment = 53							

Source: field data

Seventeen people are employed full time; more than half had jobs for 6 months or less. Income distribution is as follows:

Table 16Wage Earners by Income Class, 1973

<u>\$</u>	<u>No.</u>
>10,000	1
7,500 - 10,000	8
5,000 - 7,499	3
3,000 - 4,999	17
2,000 - 2,999	9
1,000 - 1,999	9
<1,000	<u>6</u>
Total	<u>53</u>

Source: field data

Wage employment is increasing. For the past several years there have been permanent jobs associated with government, at the school, nursing station, etc. The oil play on Eagle Plain, and lately out on the coast, has attracted people for short periods. Moreover, there have been opportunities to work with research groups as guides or labourers or for women as cooks or in a stenographic/clerk role. The increase in opportunities taken has been steady. About 1300 weeks of work are represented in the wage picture for 1973, and 60% is in permanent employment. This is down from the manpower survey in 1971 when 68% was permanent employment, but a trend to increased part-time employment from 1971 to 1973 has been confirmed. The steady jobs account for 66% of the wages (\$122,000). The types of permanent and part-time employment are shown in Table 34.

The Domestic Economy of the Average Family in Old Crow, 1973

A balance sheet for the average family in Old Crow illustrates very roughly the income and its allocation. Unfortunately, the data base for such an exercise is uneven, because expenditures are frequently unrecorded or unremembered. People do, however, remember purchases of major appliances and similar objects. The Co-operative keeps accurate records of patronage for dividend purposes, so that an attempt at a domestic budget is reliable enough to see the average condition. It is worth noting that the average family has 4.5 persons and 8 dogs. A caution is necessary here, because the average family is not the typical family; there are some wage earners and one or two trappers who have incomes that affect the average by drawing it away from a "modal" family. Table 17 shows the approximate figures. The income sources are self-explanatory. The expenditures show miscellaneous purchases at the Co-op which include hardware and fuel for skidoos and outboard motors. The outside purchases are increasing year by year, and as more cash is available, particularly in lump sums like large pay cheques, major appliances are ordered. This means a new outboard motor, skidoo or chainsaw, refrigerator, sewing machine, etc.

Table 17Balance Sheet for the Average Family in Old Crow, 1973Income

Wages	(67%)	\$ 4,580
Allowances	(11%)	720
Fur Trapping	(16%)	1,090
Woodcutting	( 4%)	310
Handicraft	<u>( 2%)</u>	<u>120</u>
	<u>(100%)</u>	\$ <u>6,820</u>

Expenditures

## 1. Co-op Store, Old Crow,

Household Supplies	(30%)	\$ 2,010
Miscellaneous	(12%)	<u>820</u>

## 2. Outside Purchases:

include Clothing,

Groceries, Liquor, Furniture,

Household Appliances,

Hardware and Machinery,

Travel and Miscellaneous	<u>(58%)</u>	<u>3,990</u>
	<u>(100%)</u>	\$ <u>6,820</u>

Source: field data

One item of outside purchase is of concern and that is liquor. There is no data on the amount that arrives in Old Crow, but there is general agreement that it is plentiful. People observe that its increase is directly related to the increase in ready cash, which in turn is equated to more work for wages. Material goods and the ability to be a good host in a drinking party, bring prestige to the owner or host. Patterns of expenditure are affected by the need for community status, and the priority allocation of funds is sometimes difficult to rationalize. There is also an increasing portion of income used in air travel, either through charter, or on scheduled flights. Relatives and friends from McPherson and Inuvik meet one another in the latter settlement. There is travel to Dawson and Whitehorse where other relatives now live. A more realistic picture of income distribution comes from noting how many families live within certain income ranges. It is not possible to be absolutely complete in these figures because no data allows the social assistance funds to be allocated by family. Nevertheless, Table 18 shows the number of families and people by income range.

Table 18

Family Cash Income from All Sources Except Social Assistance

<u>Range \$</u>	<u>No. Families</u>	<u>No. of People in Families</u>	<u>% of Total Population</u>
>10,000	11	81	44
7,500 - 10,000	5	26	14
5,000 - 7,499	7	25	14
3,000 - 4,999	5	14	8
2,000 - 2,999	1	3	2
1,000 - 1,999	6	8	4
<1,000	<u>1</u>	<u>4</u>	<u>2</u>
	<u>36</u>	<u>161</u>	<u>88%</u>

Source: field data

The Native People of Old Crow -  
Demography, Education and Acculturation

At the end of the summer in 1973 there were 183 native people living in Old Crow. In addition, 17 whites lived in the village. They are really transients because none have been there longer than 5 years, and their presence relates mainly to employment that facilitates the functioning of the community. Several other whites have been in Old Crow for varying lengths of time and were associated with research projects based there temporarily. There is some difficulty in establishing a firm figure for native population. The number above does not count children away to school, others living temporarily in places like Fort McPherson, Inuvik and Whitehorse. There are about 50 more "Old Crow people" who did not happen to be there at the time of the field investigations.

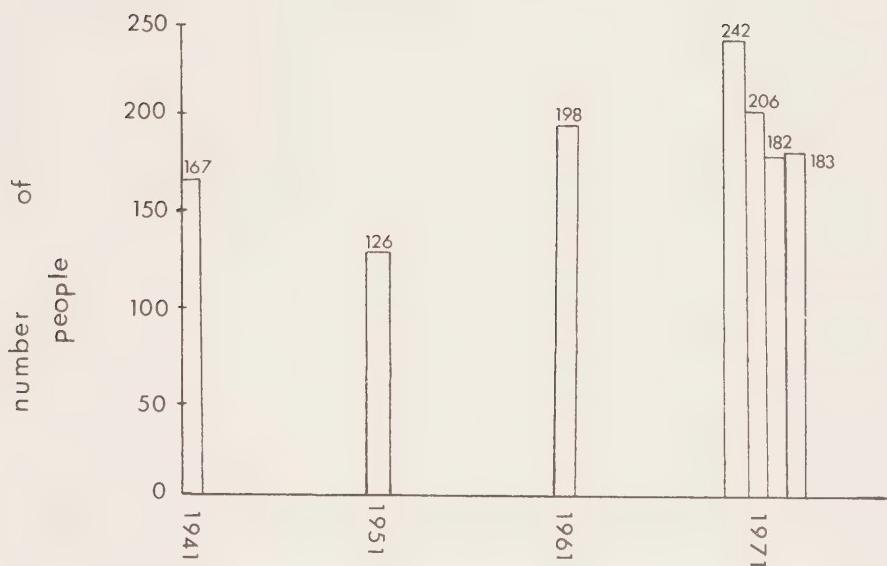
Total numbers of native people from 1941 census to 1973 are shown on Figure 10. A projection of this data on a straight line shows a very slight increase. In fact, to forecast ahead is difficult without adequate measures of birth and death rates, natural increase and migration.<sup>1</sup>

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1. The Yukon Territorial Government is preparing a report on population dynamics for various communities. It was expected that data for Old Crow would be available. Unfortunately this has not happened and for this report we have used the value of 2.1% annual natural increase which is the average for all Yukon native populations. (R. Ragunathan, personal communication)

FIGURE 10

**Native Population, 1941 - 1973.**



Sources: Balikci (1963: 67);  
DIAND Yukon Indian Manpower Survey, 1971;  
Yukon Territorial Government; field data.

Vital statistics for all the Yukon Indians show a steady increase in birth rate. Yet figures for year to year comparison weaken the confidence of prediction. For example, Indian birth rates for 1970, 1971 and 1972 are 31.7/1000 people, 32.6 and 36.0 respectively. Similarly the Indian death rates are 1970 - 9.3/1000, 1971 - 9.3, and 1972 - 10.6. A striking change has taken place in Indian infant mortality from 1970 with 63.1 deaths/1000 live births, to 1971 at 51.0/1000, and 1972 at 36.7. The current figure for natural increase of the Indian population in the Yukon Territory is 2.1% per annum; migration in and out of the Yukon by Indians leaves a net balance of in-migration of 1.1% of the Indian population per annum. These figures can be applied to Old Crow, however the judgment of this report is that the migration figure may be in error for the village because the overall impression gained during the research period is some young people leave town for school or jobs and then return. Besides the number of people who come to live in Old Crow permanently, like recent brides or bridegrooms, are very few. For this reason, the migration rate has not been used to forecast population change for the village. The forecast is displayed below:

Table 19

Estimated Growth in Native Population, Old Crow

Year	1973	1974	1975	1976	1977	1978	1979	1980	1981
Population	183	187	191	195	199	203	207	211	215

Source: 1973 population increased by 2.3% per annum.

The consequence of this pattern is that the population number is essentially stable. Note that the increase rate forecasts no population larger than has been counted in some past censuses. Table 20 gives the age structure for 1961, 1971 and 1973. The population pyramid on Figure 11 represents a plot of the 1973 data.

Table 20  
Old Crow Native Population, Age and Structure.

		Aug. 1961 <sup>1</sup>		Sept. 1971 <sup>2</sup>		July 1973 <sup>3</sup>	
		Male		Status Non-Stat.		Status Non-Stat.	
		Male	Female	Male	Female	Male	Female
0-4	14	20	9	2	0	11	1
5-9	18	20	17	4	8	9	0
10-14	10	14	9	3	10	4	5
15-19	8	10	6	2	6	6	5
20-24	7	4	6	3	8	6	7
25-29	6	5	2	1	0	3	0
30-34	4	1	2	1	2	2	1
35-39	10	7	1	1	2	4	0
40-44	7	4	3	1	1	0	2
45-49	1	2	4	0	5	4	0
50-54	1	3	6	1	1	8	1
55-59	1	0	1	1	0	3	1
60-64	2	5	1	0	1	1	2
65-99	6	8	3	1	8	3	0
						56	14
						70	21
						91	161
						198	4
						97	183
						86	5

- Balikci (1963:67)
  - DIAND Yukon Indian Manpower Survey, 1971
  - Field data
  - The census for Old Crow in 1971 = 206; there is no explanation for the missing 45 people.
  - This is the total permanent population of Old Crow and does not include 53 people (17 male, 36 female) who we have recorded as living in Old Crow at one time.
- Note: This table introduces the distinction between Status and Non-Status native people. For most purposes there seems to be no reason to use it. The present law groups full-blooded Indians with Métis, and vice versa, solely on the basis of marriage; the classification is, therefore, of little practical importance. The report generally ignores the distinction.

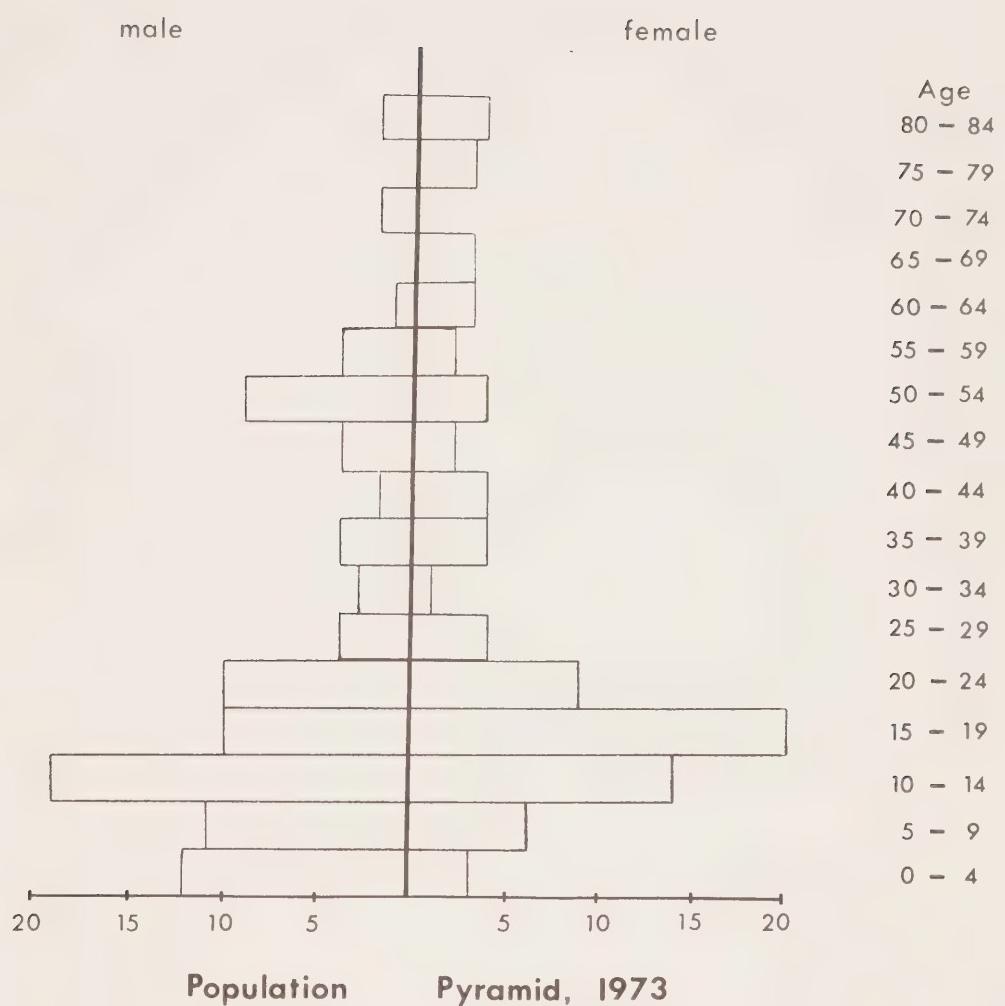


FIGURE 11

The data demonstrate the persistence of a youthful population; at each census, over half of the people are under the age of 20 years, three quarters are younger than 45 years, and consistently 7% of the population are 65 years or older. With so few individuals it is unwise to generalize on the age-sex pyramid. It was observed during the analysis, however, that of the people born in Old Crow who have left town, there were more women than men. Perhaps the reason is that girls persist longer in school and develop skills to gain jobs outside, then never return because of marriage to men they met while living away at school or work. There are a few people in their teens who are out at school, and one or two young men have married into families of nearby settlements, Fort McPherson for example, and live away. It is in this way the 50 Old Crow people outside the village can be accounted for. The following tables are presented as other patterns of the 1973 population structure in Old Crow.

Table 21Structure by Sex, 1973

(Number in brackets: Non-Status)

Male

Age	Single	Married	Separated	Widow	Child	Child	Child	Child of
					Head	Spouse	Under 18	Over 18
					Years of	Years of	Living in	Another
					Head	Head	House	
0-4	12 (1)				5 (1)	5 (1)	6 (0)	1
5-9	11 (2)				7 (1)	7 (1)	1 (0)	12
10-14	19 (3)				19 (3)	19 (3)	3 (1)	11
15-19	10 (4)				7 (3)	3 (1)	—	19
20-24	10 (4)				3 (1)	4 (0)	3 (3)	10
25-29	3 (1)			1 (0)	3 (1)	1 (0)	—	10
30-34	3 (1)				2 (0)	2 (0)	1 (0)	4
35-39	4 (0)				4 (0)	4 (0)	—	3
40-44					2 (2)	2 (2)	—	4
45-49	1 (0)				3 (0)	4 (0)	—	2
50-54	2 (0)				5 (1)	1 (0)	9 (1)	4
55-59	2 (0)				2 (1)	4 (1)	—	9
60-64					1 (0)	1 (0)	—	4
65-99					—	—	—	1
					2 (0)	4 (1)	38	4
					—	—	—	—
					16	3	8	8
					77	—	—	97

Table 21 (cont'd)

## Structure by Sex, 1973

(Number in brackets: Non-Status)

Female <u>Age</u>	<u>Single</u>	<u>Married</u>	<u>Separated</u>	<u>Widow</u>	Child			Child of Another			Child of House- hold			<u>Total</u>
					Head	Spouse	Under 18	Over 18	Years of	Living in	House	Other		
					House- hold	of Head	Years of Head	Head	House	House	House			
0-4	3 (0)						1 (0)			2 (0)				3
5-9	6 (1)						5 (1)			1 (0)				6
10-14	14 (5)						12 (5)							14
15-19	20 (7)						14 (5)			6 (2)				20
20-24	9 (0)						9 (0)							9
25-29	3 (0)						3 (0)							4
30-34					1 (0)		1 (0)							1
35-39					1 (0)		1 (0)							4
40-44					4 (3)		4 (3)							4
45-49					2 (0)		2 (0)							2
50-54					2 (0)		2 (0)							4
55-59					1 (1)		1 (0)			1 (1)				2
60-64					1 (1)		1 (0)			1 (1)				3
65-99					3 (0)		7 (0)			3 (0)				10
							11			17				18
							2			32				32
														2
														86

Source: field data

Table 22Demographic Structure, 1973<sup>1</sup>

	Status		Non-Status		<u>Total</u>
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	
Single	61	43	16	13	133
Married	12	12	4	5	33
Separated	1	2	-	-	3
Widow	2	9	1	2	14
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	76	66	21	20	183
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Household heads	29	12	7	2	50
Spouse of head	N/A	12	N/A	5	17
Child of head <18 yrs	30	21	8	11	70
Child of head >18 yrs	7	16	1	2	26
Child of another living in house	7	3	-	-	10
Other	3	2	5	-	10
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	76	66	21	20	183
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Households with married couple				16	
Households with single male				19	
Households with single female				8	
Households with single men and children				1	
Households with single women and children				6	
				<hr/>	
				50	
				<hr/>	

<sup>1</sup> Field data

Education and Training

There has been a school in Old Crow since 1961 giving instruction up to and including Grade 9; beyond this, students go to Whitehorse. In the old days there were local efforts at education, but any serious students were sent to the residential school run by the Anglican Church at Carcross, Y.T. A school in the village since 1961 means that school age children up to 18 years will have had a reasonable chance to have education. Table 23 gives the educational level for all people over 16 years of age. One third have not had formal education; they are mainly older people, over 50 years. Everyone else has had some schooling, and it reflects the belief of older people that education at white man's school would help their children live in the new world. The data show that some people in their early 40's and 50's have education to about Grade 4 or 5, and many of the men at least have the ability to read and write English. Practically all people from 15 to 30 years of age have at least Grade 8 and many have Grade 10. After that level, the extra training seems to have been vocational instead of academic.

Table 23Education Levels of Old Crow Labour Force, 1973

(16 years and over living in Old Crow on August 1, 1973)

<u>Highest Level Attained</u>		<u>Number of People</u>
Grade	None	32
1		1
2		1
3		5
4		6
5		7
6		1
7		3
8		16
9		13
10		10
11		0
12		0
Post Secondary		
Year	1	1
2		0
3		0
4		0
		<u>96</u> *
		<u>=</u>

\* Does not include people attending school in September 1973

Source: Yukon Manpower Survey, 1971 (DIAND), updated by field data

### Language

While most young people are prepared to operate in the English language easily, the older people, from 40 years and up, may or may not have the skill. Most people of working age, mainly men, can manage rudimentary written English, can operate numbers, read with general comprehension, but they are not confident enough for what could be described as "office work". They could, however, keep records, read instructions and the like. Several people in this age group are self-taught in English. Those who have some problems with English will almost all read Loucheux. Older people also are able to read and write their own language. The young people, however, have not retained this skill because it was only through the home that it was passed along. The presence of an English-speaking school, movies and other influences have eroded the native language. A sampling of the adult population shows that 37% use Loucheux regularly in conversation, 43% do so sometimes, and 15% never use it. Not surprisingly, old people speak Loucheux and parents may speak to children but expect English answers. In only one-fifth of the homes in Old Crow is Loucheux used more or less all the time.

### Non-Academic Training

In recent years there have been several programs to offer native people skills other than those associated with the traditional life. Table 24 gives the numbers of people and types of skills they possess. They have not been separated by sex on the grounds that it

is the skills which are important. Most of this training is current and practically all of the training has been followed by job experience. A comparison of the skills with the present types of part-time employment, Table 34, will show a good correlation.

Table 24

Vocational Training of Old Crow Labour Force, 1973

<u>Type of Training</u>	<u>No. of People</u>
Equipment Operator	5
Vocational Skill	
(a) business management	1
(b) waitress	1
(c) pipeline training	1
(d) public speaking	1
(e) forester	1
	5
Secretarial	5
Equipment Operator and Vocational	
(a) with public speaking	1
(b) with carpentry	1
	2
Vocational and Clerical	
(a) barber and bookkeeping	1
Domestic (Cooking)	2
Other	
(a) weather observer	2
(b) teacher's aid	1
	3
	—
	23
	—

Source: Yukon Manpower Survey 1971, (DIAND) updated by field data

Current School Population

Table 25 shows the numbers of children in school by grade level. The school, like others in the Yukon, bases its work on the B.C. curriculum. It does, however, have flexibility in adjusting some of the instruction to local conditions. Recently the principal has introduced a Loucheux language class for the middle grades, and other practical programs like outdoor survival, including field experience, are being discussed. The community response to such modifications has been approving. The need to go to Whitehorse for secondary school still bothers some parents. They would like to have school locally available to Grade 10 because 15 years is considered young to move to a large cosmopolitan community.

Table 25Attending School in Old Crow, 1973

(All those attending school, at any age, and living in Old Crow as of August, 1973)

Grade 1	5
2	19
3	3
4	7
5	6
6	8
7	0
8	10
9	5
10	5
11	2
12	<u>0</u>
	<u>60</u>

Note: Students in Grades 10, 11 and 12 attend school in Whitehorse  
 Source: DIAND Yukon Indian Manpower Survey, 1971 updated by field data

## Health

No health data were gathered in the field. It was understood that the statistical branch of the Yukon Territorial Government would produce a report with information about health levels and problems for Old Crow, along with other Yukon communities. Unfortunately, the data base related to the newly instituted Medicare plan was not yet complete and the report unavailable.

The most recent published account of health in Old Crow concerns respiratory virus antibodies (Hildes, *et al*, 1965). Part of the observations include the remark that a flu virus had attacked 30% of the people during two years from 1958 to 1961 without being clinically recognized. The records of the nursing station report more upon illnesses and accidents than upon the state of health of the people. If a casual observation may be permitted, during the summer field season of 1973 there seemed to be an unusual number of colds especially among the children. Such low grade infections may be just the type that Hildes found evidence for. At one time in the past when communities were more isolated, respiratory infections like colds and flu broke after the visit of the plane, supply boat or whatever. Now people travel much more frequently and it may be that chances to contact and communicate certain diseases are increased.

The report can present no data on venereal disease; the danger of communicating such infections could be a problem for the community if some members came in contact with a new population such as a construction camp.

Experience Outside Old Crow

People from the village go outside for at least three reasons: to go to school, to work, and to visit or holiday. For example, all the present children go to Whitehorse for schooling beyond grade 9. Also in a sample<sup>1</sup> of adults, 43% had been outside for vocational training, mostly in Whitehorse. In the same sample, 38% reported they had already worked somewhere other than Old Crow, mostly in Whitehorse or some small community and that their experience was within the last 6 or 7 years. Most who were out were on the job less than three months and they were nearly all performing straight labourer functions.

It has been mentioned elsewhere in the report that travel is increasing. As a measure of the "cosmopolitan" experience of Old Crow people, the travel pattern can be described. The sample of adult respondents shows that 75% of them have been away from Old Crow sometime in the last two years. Of that group two thirds have been elsewhere in the Yukon, and acknowledging overlap, more than half have gone to the N.W.T. Others had travelled to Alaska, Vancouver, Edmonton, Winnipeg and Ottawa. Travel is summarized in Table 26. The purpose for most of it was either visiting, holiday, or on business, nearly all trips were a week to a month in length, and, of course, all people left Old Crow by air.

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<sup>1</sup> The sample covers 60% of all people over 15 years.

Table 26Travel from Old Crow by Season

	<u>No.</u>	<u>% of respondents</u>
Summer 1971	7	11%
Autumn 1971	5	8%
Winter 1971/72	12	19%
Spring 1972	14	22%
Summer 1972	15	23%
Autumn 1972	13	20%
Winter 1972/73	10	15%
Spring 1973	20	31%
Summer 1973	11	17%

Source: field data

It can be concluded that if Old Crow is somewhat isolated, the residents are not, in the sense that a good many have seen other places and observed different paces to life and other cultural values.

Traditional Skills and Acculturation

It is conventional wisdom to believe that native people living in northern communities like Old Crow are thoroughly acquainted with the skills and lore for successful living on the land. You would, of course, find it quite easy to secure the services of several good people for competent guides in both summer and winter travel and survival. But it is also surprising to measure the retention and loss of certain traditional skills. A quick résumé of responses to a questionnaire can illustrate. People were asked if they had the knowledge and skill to make several traditional items. Their responses are given in Table 27. The list of skills are more illustrative than representative, but it is interesting to note that of the 17 items, 12 had more respondents saying "no" to the skill than "yes". Yet all of the skills continue to be practiced as can be seen by the bracketted numbers. In general younger people do not have traditional skills to the same extent as their parents, at least the range of things they know how to do or make is more restricted. Children now in school have even less opportunity to learn than their elder siblings.

Table 27  
Traditional Skills

Number of Adult people with the skill to make the following: ( ) in brackets the number who have actually made the items in 1973.

	<u>Yes</u>	<u>No</u>	<u>No Response</u>
Toboggan	27 (6)	28	10
Dog whips	11 (3)	41	13
Dog harness	37 (15)	19	9
Snowshoes	10 (3)	45	10
Rat canoes	24 (11)	31	10
Rabbit blankets	5 (1)	45	15
Caribou rope	18 (5)	33	14
River boat	14 (3)	35	16
Canvas scow	30 (11)	24	11
Log cabin	27 (5)	26	12
Dog packs	21 (4)	32	12
Babiche	19 (7)	32	14
Tan hides	14 (9)	37	14
Sew boots	30 (18)	21	14
Dry meat	37 (21)	15	13
Bone grease	19 (8)	32	14
Pemican	22 (12)	29	14

N = 65 respondents

Source: field data 1973

The decreasing use of land, at least in time and space, offers less opportunity to pass along traditional skills.

From the data which generated Table 27, it is possible to learn to what extent each individual possesses all or a combination of skills; this is the extent to which a person engages in the traditional material culture. By combining this with the levels of school education, and the type and place of wage employment, it is possible to devise a quotient to measure acculturation level. One can recognize low, medium and high acculturation as a range from traditional to modern society (see appendix III).

Table 28

Acculturation Levels in Old Crow by Age Groups, 1973

<u>Age</u>	<u>Low acculturation</u>	<u>Medium acculturation</u>	<u>High acculturation</u>
40 years	16	13	4
25-40 years	1	8	3
15-24 years	0	10	22
Total	17	31	29 (77)

Source: field data

That acculturation level varies inversely as age and the array is not due to chance is statistically supported.

Similarly Identity level can be determined on the basis of reported personal feelings about aspects of the old and new ways. (see appendix III) Thus an individual can be said to have Low Identity level, meaning he identifies with the traditional life, a Medium Identity level, and a High Identity level for those who think they feel at home in the new society. The table demonstrates there is a group with Low Identity who cling to the traditions of their people and the land, and the inverse relationship between age and identity level is statistically significant. Clearly most people find themselves in the middle level.

Table 29  
Identity Levels in Old Crow by Age Groups, 1973

<u>Age</u>	<u>Low Identity</u>	<u>Medium Identity</u>	<u>High Identity</u>
40 years	8	23	1
25-40 years	5	6	0
15-24 years	4	25	2
Total	17	54	3 (74)

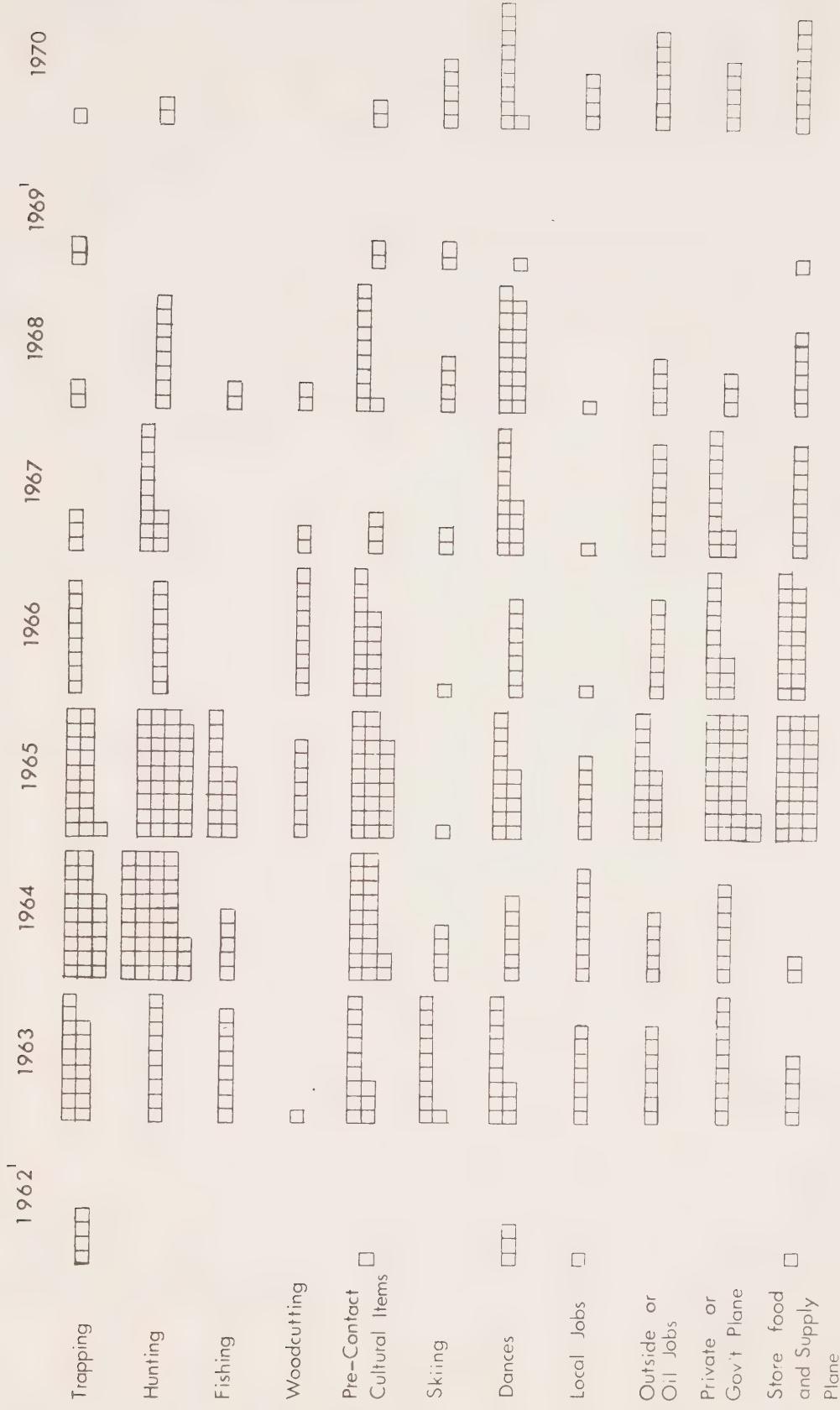
Source: field data

It is a measure of the great dilemma in which many northerners find themselves; they are divided in their allegiance to the land of their fathers, and the material security of settlement living (see Honnigman, J., 1965). What is also of interest in the Old Crow data is the relatively few individuals who have a High Identity level; it suggests that

the "sophisticated" veneer taken on by some natives in other "front-line" settlements has not yet happened to Old Crow.

An additional piece of evidence about changes in the life of Old Crow comes from the pen of its famous news correspondent, Edith Josie. "Here are the News" is her regular column in the Whitehorse Star and in it she reports the happenings in the village. They are written mainly for the outside reader, but they represent the items of interest in the community as perceived by a local observer. A content analysis or tabulation of frequencies of mention was made for many of the items appearing in the news. They have been plotted on Figure 12, for the period 1962 to 1970. Each time trapping was mentioned, for example, it was counted and the number of times aggregated for each year; the frequencies can be determined from the diagram by counting the number of squares. The absolute values are not important, because of variation in the number of columns printed, but the overall trend is interesting. Traditional activities like hunting, trapping, fishing and an aggregated group of pre-contact cultural items were mentioned more frequently up to and including 1965; from 1966 onwards, they appear more infrequently in Miss Josie's news. Conversely, items to do with jobs both local, outside and with oil companies, talk of planes and store food or resupply become increasingly important and newsworthy events after 1966 but before were spoken of infrequently. From this very tenuous evidence, 1965 looks to be a bit of a watershed in the changeover from traditional to modern events or topics, as items of interest, conversation and news in Old Crow.

**EDITH JOSIE : HERE ARE THE NEWS,  
CONTENT ANALYSIS 1962-1970**



<sup>1</sup> Incomplete data

FIGURE 12

Social Organization Among the Old Crow People

The work of Asen Balikci (1963) gives a good account of the social organization of the Vunta Kutchin. He concludes that in the old days there existed a matri-lineal "clan" system or sib-moieties which had influence on ceremonial activities, war, and to a certain extent, leadership. Although it cut across tribal groupings, it governed marriages. In matters economic, however, the man dominated particularly as the provider and so there are strong patrilineal orientations to the culture (Balikci, 1963:33).

Leadership and Government

In the old culture, one could identify five different "chiefs". A tribal chief was a man of prestige, wealth and many wives (op. cit., 26). In a sense he was political chief. Economic chiefs were the owners of caribou surrounds or fish traps. Sib chiefs were the heads of respective clans. War chiefs, not always a common occurrence among the Vunta, held obvious responsibilities. The Shaman with his powers was frequently more influential than other chiefs. To this collection of authority, the Hudson's Bay Company dignified another role by appointing trading chiefs. With the increased importance

of trade and trapping, this chief subsumed a position of pre-eminence; the tribal and sib chiefs became less important or disappeared like the war chief who filled no function after the arrival of the traders. Missionaries dealt a blow to the Shaman, although they kept their credibility among the people through an "underground practice". In fact, many local people have direct knowledge of people who can "make medicine".

Thus, up until the early part of this century the leadership was provided by the trading chiefs and the economic chiefs. But then the surrounds were abandoned, and the Hudson's Bay Company withdrew its forts. On top of the new dispersed pattern of settlement caused by individual trapping and hunting modes came the disappearance of the chiefs; there was a leadership vacuum.

For a little time, the vacuum was partly filled by white institutions. The church, its resident missionary and the native catechists were all respected for their advice and they strongly influenced social behaviour. The R.C.M.P. authority was accepted. There were also among the local people, whites as traders and trappers married into local families who exercised control through business dealings or commanded attention by their industry and integrity. During a period when individuality was developing, certain of the Indian people were recognized for their hunting and trapping successes and for their care and

attention to the welfare of their families. Given the opportunity, such men gravitated to leadership roles. This leadership became important in dealing with the authority of the government which made itself gradually felt after 1950 when it first took a serious interest in northern people. The government introduced a system of elected chiefs supported by an elected Council. They now are elected every two years.

The present Chief, Charlie Abel, is supported by four members of Council, Lazarus Charlie, John Joe Kay, John Kendi and Grafton Njootli. It is the core group who conduct the official business of the community on behalf of the Indian Band. The Band has an office, employs a manager and a secretary to administer and keep the records of projects run by the Band (e.g. water and garbage truck, welfare firewood, movies at the Community Hall, etc.). The Chief and Council are concerned with community-wide problems and deal through resolutions and correspondence with government on such matters as the riverbank erosion, oil exploration, airport construction, etc. Much communication and feedback is achieved by calling Band meetings at which the Chief presides. Questions requiring community opinion are raised, and any member of the assembly may speak before decisions are taken. These meetings allow announcements to be made, but frequently they are occasions for admonition on behaviour (e.g. children out after curfew)

or when help is required or jobs available (e.g. get wood for the church or for the school). Although the Chief and Council are elected by the Band, the meetings are open and Métis and nonstatus Indian members of the community attend and participate in the discussions. This represents the only form of community government.

### The Effectiveness of Local Government

Government success in a community like Old Crow can be measured in two ways; the influence that the Band can exert may be directed to external relations or to internal affairs.

The field investigations are able to report on the internal aspects of government. In questions concerning the Band meetings and Council influence, the following broad conclusions are provided. Old Crow people perceive that meetings are held about every month, and 30% of the people always go, 60% sometimes go, and the remaining 10% never attend. It suggests that a certain segment of the community attends meetings and conducts Band business. This is understood; 75% of the people agree that usually the same people attend Band meetings. At the meetings speakers, usually led by the Chief and Councillors, voice their opinions and an interpreter gives a résumé in either Loucheux or English depending upon the language of the speaker. Not all people are anxious to speak; about 25%

reported that they speak at meetings, the rest speak very seldom or not at all. This will vary, of course, with the proceedings and subjects under discussion. By far most of the people (95%) agree with the proceedings of the meetings. If there is conflict, only some people will speak out openly (19%), while others meet with Councillors or influential people to press their viewpoint after meetings (17%), but most appear to accept the consequences. In some cases, where a controversial topic is about to arise, some people (12%) discuss their views with Councilmen or others in advance. Generally, however, the meeting place is the forum for decision. The Old Crow people believe this system of government to be effective, because they report the Council and Chief have strong (31%) or medium (49%) influence in community affairs. In an attempt to learn if this form of local government had changed, the same questions were asked as they would have applied in 1960, and "long ago" (i.e. when the informant was a young man or woman). While it may be a fault of the methodology, there was no strong difference in the past from the present pattern of responses. It suggests that the traditional respect for head men in conducting community affairs still exists and the time-honoured Band meeting continues in its formal way to be the vehicle for community expression.

The effectiveness of the Band in dealing with agencies, especially government, outside Old Crow may be

assessed from both sides of this contact. The research has not tried to measure government or other "outside" perception of the Band influence. The general understanding however, is that Old Crow acting through the Chief and Council is an independent, outspoken community that has high political sensitivity. In fact the leading men are granted a reputation for considerable political skill in balancing the viewpoints of their own people, the Yukon Native Brotherhood, the Yukon Association of Non-Status Indians, the Territorial Government and the Federal departments. The consequence, as perceived outside, is that the welfare of the community is well served by local government.

The success of the Chief and Council in their outside negotiations may not be so well regarded in Old Crow. In the past few years with critical issues such as oil exploration nearby or the issue of native land and aboriginal rights, there has been difficulty in agreeing who should speak for the people of Old Crow. The agencies closely involved are the Yukon Native Brotherhood, the Yukon Association of Non-Status Indians, and the Band Council who are involved in putting the position of the native people, while governments, both Territorial and Federal, represent the authority that may either effect changes or give permission to private agencies for exploration or development. Many people in Old Crow have been confused and alarmed at how fast these pressures have developed. It is reflected

in their answers to questions of who should represent them to government. For example 40% of the people would agree that the Band should negotiate their problems with government. Yet 46% suggest that the Y.N.B. should represent them, and 15% would support Y.A.N.S.I.<sup>(1)</sup>. A very few people would rather deal with government through the R.C.M.P., or some other agencies like the church or directly with government administrators as they visit the settlement. These latter agencies, police and church, were more effective in the past when relations with government were performed by them on behalf of the people. Now, of course, the people themselves are speaking out. The new politics with pan-nativism brings out the dilemma of how much to submerge local issues and needs in the face of an all-native policy. This is the political question which will challenge the skills of leadership in Old Crow. It might be observed in passing that some younger people are reaching for and receiving political roles. The complexities of life have so increased that the people are wavering between the old, accepted thesis that wisdom and age go together, and the negotiating wit of younger people formally educated in the white man's own ways.

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(1) The percentages do not sum to 100% because these questions were not mutually exclusive. There can be overlap in the opinions expressed.

Other OrganizationsThe Church

In Old Crow, the Church means St. Luke's Anglican Church. All members of the native community are Anglican. From its early days there has been a strong tradition of local catechists or ministers looking after the flock. The last of these respected men, Big Joe Kay, died a couple of years ago and now there is a resident clergyman, Reverend J. Watts.

The visible signs of church influence are measured in attendance at Sunday services and the universally accepted Christian rites of Baptism and the role of god-parents, confirmation, and at marriages and funerals. Most people believe up to 50 people are regular church attenders; more are present for special services like Christmas and Easter, or when the Bishop arrives. Many turn out when the native minister, Reverend J. Sittitchinli visits the congregation. There is a distinct recollection that in the old days, most everybody came to church. The presence of a white minister has the effect of reducing the amount of the service that is conducted in Loucheux. During the year or so without a resident minister, local people maintained the service, and there seems to be a fondness for increased use of their own language. A survey of opinion about the church shows a strong satisfaction with church tradition as it is interpreted and practiced by their

own people without the help of an outsider.

Associated with the Church is the Women's Auxilliary organization. It attracts the active support of women of middle and older age, and the meetings are in part social occasions. Their projects are to do with church maintenance and a modest contribution to missions.

There is a Men's Club at the church, but in the last 12 months it has not been active. Most men claim membership, even young fellows, but when it is active, mainly older people attend.

#### The Co-Operative Store

Following the closing of Joe Netro's store in 1969, a Co-Operative was formed with a Federal government loan, and the store has operated since January 1970. A local advisory board of six elected representatives decides policy, especially with respect to credit, repayment schedules and other questions where local knowledge is important. The manager is a man from outside and on salary; he is responsible for the day to day operation, the buying, etc. Attempts have been made to train a local person to become the manager; in fact, an Indian man was a successful manager for a period of several months. A local person can learn the job, the main difficulty is in dealing with individual customers on matters of credit, etc. and some local people who have the experience feel trapped by its responsibility.

Since all have shares in the Co-op, the manager is in a real sense working for the community, thus a local person is much more vulnerable to social and economic pressures than is a manager from outside the cultural group. Perhaps this is the reason why the present manager has been unsuccessful in interesting a local person in training for the role. Nevertheless, it remains the goal of the advisory board and the Indian Affairs Branch of Government in Whitehorse to have the store operated by a man from Old Crow.

#### Other Organizations

There are other groupings which are more informal than formal. For instance, the principal of the school has a group of persons he consults on local issues. The advisors are able to comment upon and influence the curriculum so that local education has some relevance to local living conditions and activities. Another group is composed of women who without formal organization, meet to sew and do bead work. There is also a troop of Brownies meeting at the school, and other branches of the Scouting movement have come and gone in the past.

#### Sociability

There are social occasions in which the entire community takes part. Feasts, dances, holidays, weddings and other celebrations are examples. Most have their origins

in the past culture but have been adapted to current practices.

### Feasts

Before the white men, these events were potlatches with gift giving usually organized along sib or clan lines. They marked events like a recent death, a new born son, weddings, the beginnings of the salmon run, or the killing of a moose. Balikci (1963:30) reports the formality, the ritual and protocol that accompanies these feasts. After contact, this form of social intercourse was interpreted as occasions in excess and with pressure from the missionaries, the government banned potlatches at the turn of the century (*ibid*:52). Feast then evolved towards the present pattern for they continued under the guise of community repasts after funerals and weddings. Events like the salmon run were entirely forgotten but the moose feast continued to survive. Feasting is, therefore, a distinctly native custom and any outside agency that attempts to entertain at a mass banquet is never quite able to convey the same meaning of hospitality and camaraderie that pervades a feast with local hosts.

The interviews with informants about life "long ago" when they were youths, in 1960, and at present shows the endurance of the feast as a celebrative occasion. Moose feasts are remembered best, for when a moose was shot, the owner offered a feast. Everyone seems to have helped with the preparations although the Chief and Council are remembered as being responsible for the organization by about 20% of the people. Over time, the women have assumed most of the work

which was more evenly shared in the past. Recently there has been a lessening of importance associated with the moose feasts; not every moose brought into town means a feast. Weddings, holidays like Christmas, Hallowe'en, July 1st and Discovery Day are occasions for village celebrations. The obligation to offer a feast to the community is felt by the leading citizens because such an event is related to prestige on the one hand, and the discharge of social debts on the other. It is not possible to articulate the precise pattern of the behavior, but it is observed and understood by the people of Old Crow.

### Dances

Closely related to feasting is dancing; one is usually followed by the other. Dances are much influenced by the music and style of step associated with the fur trade. For instance, the music is provided by a fiddler and a man on the guitar, and has a distinct country and western character. Jigging, a type of step-dancing, is enthusiastically practiced and enjoyed; in fact it is the dominant form of dancing. Occasionally a square dance is called for variety. Dances begin about 9 P.M., start to involve everyone about 11 P.M., and after the outsiders in town leave at midnight, serious dancing begins and lasts until 5 or 6 A.M. It is interesting to note that the young people in town participate as energetically as the elders, in spite of their exposure to "modern" dancing while out to high school or Whitehorse and Inuvik visits.

Dances occur most frequently during summer, about on a one-a-month basis. No count was taken, but most people report 6 dances a year. There seem to have been more dances in the past, at least that is what is recalled; movies might be responsible for providing an alternative entertainment and thus a fall-off in the number of dances. In any case, dances are well attended; fully 60 - 70% of the people say they go. Everyone expects more than half the town to turn up and age is no discriminator of attenders. Up until 1960, informants report that there was little or no drinking associated with the festivities. Now, however, since liquor and beer are legally available, they are a factor at such celebrations. Drinking is not overt at the dance; instead celebrants drift off to nearby houses, return and slip away again. Thus there is a shifting population as the music plays on. Opinions are divided on the consequences of drinking; 28% of the informants say it spoils a dance, 20% say it livens it up, and 39% say that either consequence is possible. In any case, dancing remains a popular social exercise that brings all elements of the community together.

#### Holidays and Community Events

Official holidays are recognized in Old Crow. The Co-op will close and government employees will have the day off. July 1st, the national day, is marked by a sports day with various races, a tug-of-war between the men and women usually won by the latter, baseball, sometimes a feast, and a dance afterwards. Everyone shows up sometime during the day, the men play ball and the younger people enter the

races, In fact, 80% of the people report they participate in these introduced games. The day is organized through the Band Office but many help out as they can. The enthusiasm of parents for a Christmas concert is no different than in the south where the custom originates.

### Movies and T.V.

Movies are held in the Community Hall, the revenue defrays the cost and adds to the Band coffers. A new show comes about every week, but this arrangement can break down when planes are late or do not arrive, or if someone forgets to put the films on the aircraft. Movies are popular: people will turn out regardless of the quality of film shown. Eighty percent of the people report they go to the movies, while about 35% rarely miss a show. Almost half who go, do so as a family group. It is not surprising attendance is good, especially in winter when the social whirl is faced with fewer options.

T.V. shown on video-tape monitors is interesting the people. The Band Office has a monitor and there is one at the school and nursing station. The Band Office is able to use their machine to show programs related to the north, give local people an idea of how their life and problems are portrayed to southern society. The school and nursing station show T.V. for educational purposes, but tapes of pure entertainment programs come north and the local people are always invited when they are being run.

### Private Socializing

Socializing is synonymous with relaxing, and there are many ways people relax. Some go on picnics in summer and enjoy sport fishing or berry picking; others like visiting neighbours, friends and relatives where conversation is important. Two activities, card playing and drinking frequently are the reasons for social gatherings.

The research did not attempt a detailed analysis of these two activities. In 1961, when Balikci did his field work, Indians were not allowed to possess alcoholic beverages; it was available from whites or Métis who obtained it legally, or manufactured in illicit brew pots. Balikci observed that there was a drinking party somewhere in town at least every night. He concludes that it is an important social activity (Balikci, 1963:73).

Possession of liquor and beer became legal in 1966, and home brewing or deliveries from Whitehorse are common. The balance between the two is a function of ready cash; with high cash flow, more arrives by plane. Casual observation tends to confirm Balikci's statement that a drinking party is to be found almost every night. Similarly, poker playing is a widely patronized activity. About 40% of the informants say they enjoy card playing, and it is mostly the men who engage in poker. Cash is a necessary ingredient, but bets of furs, equipment and jewellery are all honoured. There are locations in the village that are the poker dens and it is not hard to find a game at almost anytime.

Research into private socializing or other private inter-personal relations was not undertaken out of respect for personal feelings.

#### Commentary on Old Crow Political and Social Life

In small communities that are to some degree isolated, the chief preoccupation seems to be observing and reporting on other persons. In Old Crow, there are no secrets, and as people know one another so well, there is plenty of opportunity to engage in gossip. Welsh (1970:28) refers to it as a "high level of malignant gossip" and Balikci acknowledged its function (1963:133). Such behaviour is influenced and reinforced by alliances between individuals. There are those who are "in" and "out" of every subgroup. In fact, the village seems shot through with several webs of inter-personal connections, and it was not possible to invade. Without needing to understand these alliances or lines of influence, it is clear that community opinions are formed in the network. Thus no one observes people engaged in serious conversation in the open; views are exchanged behind closed doors. It takes time, therefore, for information and reaction to pass through the village. Consequently, agencies from outside who seek a community view or wish to place a proposition before the people cannot expect an adequate response without allowing time for people to speak privately with one another and react to leading opinions. To force the pace of decision making in Old Crow is to run the serious risk of hostile and adamant treatment.

There are certain signs that the "quality of life" in Old Crow is being undermined. A nostalgia exists for the old days when life centered on the community and the people in it. Now with modern transport and communications, wage employment, liquor, etc. people travel more widely and are more selfish in their concerns. For example, 78% of the people had gone out of Old Crow in the last two years, mostly for a week of holidays to Whitehorse, Dawson and Inuvik and 20 men had worked outside for a month or longer. In 1960, only 20% report having been "outside", and only 2 people reported working away from the village. The process of change is hastened by the increasing numbers of visitors. In the last couple of years the pitch of research and exploration activity has produced more than daily landings at the new air strip and strangers frequently walk through the town. Old Crow people are still friendly, but with the increased "tourist traffic" there is a growing impersonality about human relations. What was once friendship and respect between people now has more an element of tolerance about it.

It is possible to detect an increase in anti-social behaviour. The crime statistics for the past 5 years are in Table 30.

Table 30

Reported Offence, Old Crow

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Assaults	9	1	9	13	23
Breaking & Entering	-	1	2	-	3
Theft over \$50	-	-	1	1	2
Theft under \$50	2	3	7	3	-
Liquor Offences	5	6	2	19	41

Source: Old Crow R.C.M.P. records.

Without erring seriously, it is possible to suggest that alcoholic drink is closely related to events tabulated by the R.C.M.P. Chief Abel, as Justice of the Peace of Old Crow has expressed concern for personal behaviour getting out of hand, and a review of the Band minutes demonstrates that elders continually warn against excesses.

Old Crow Village

The buildings that make up the physical village are strung out almost 9/10th of a mile along the right bank of the Porcupine River just downstream from the tributary Old Crow River. All are within 400 feet of the water's edge. The site (at an elevation of 930 feet O.D.) is flat with slightly lower land behind the houses, and set about 20 feet above the river. In front of the main part of "town" the descent to the river is over a steep bank that is maintained in an unstable condition by the current of the river as it flows to the outside of the bend on which Old Crow was built and undercuts the slope.

There are about 75 major buildings in the settlement consisting mostly of log houses, government buildings like the school teacherage, R.C.M.P., nursing station, forestry office, government garage and Post Office. Some buildings are for local government services; they include the co-operative store, the two Community Halls, and the Band Office. There are two churches with associated domestic buildings. At almost every house there are one or more outbuildings such as caches, smoke-houses, tent frames, sheds, and privies. The map (end plate) shows the locations of all structures, but it gives no real sense of the area of ground covered by buildings.<sup>1</sup>

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1.

A 1963 map of the village is included for comparison with the 1973 plot in the end plates.

Behind Old Crow is the air strip. It is approximately 5400 feet long and 300 feet wide. The strip has been built in such a way as to extend from the edge of the bank overlooking a slough at the east end of town, to within 100 feet of the river at the west end of Old Crow. The town is quite literally cut off from the rest of the terrace that extends inland, and is isolated at the river bank. The building of the air strip has a somewhat controversial history. The most recent misunderstanding occurred over the surveying of a safety zone around the strip. If a zone clear of buildings and other obstructions were maintained on both sides of the runway so that the whole zone were 1000 feet wide, there would be very little room for expansion or relocation of buildings in Old Crow. What is equally important is the fact that the strip cuts off access to the trails that lead from the village towards Crow Mountain and the hunting territory nearby. It is, of course, possible to travel directly across the runway but this is illegal and more important, it is extremely dangerous. The noise of a skidoo certainly drowns out the sound of an approaching aircraft, and even if walking, it is not always possible to hear a plane coming in. The road to the new garbage dump requires the truck to drive around the end of the runway on the gravel shoulder.

Other consequences of the runway construction relate to drainage. There is a very gentle slope to the surface away from the riverbank inland so that the ground next to the strip foundation is 2 to 4 feet lower. It is necessary to construct a drainage ditch at the west end of the village to permit ponded waters to escape to the Porcupine

River downstream from the buildings. All the runoff water from the community drains to this ditch and the sewage wastes from the R.C.M.P. barracks empties into it; both constitute a potential health hazard.

#### Water Supply

Most people get their water from the Porcupine River. In summer they carry it up the bank in buckets, although the band-owned truck, when it is operating, has delivered 45 gallon drums of water to residences at \$2.00 each. In winter, ice is cut to be hauled and melted in either 45 gallon drums or in fibre-glass reservoirs inside the houses. The Co-op store, the R.C.M.P., the nursing station and the school all have pumps and hoses for filling their reservoirs. Both summer and winter they pump directly from the river. It is most difficult in winter, keeping a hole open and pumping must be done in "mild" weather, i.e. above -40° F. It is also cut and stored by the school, especially for drinking water. This report has not considered the quality of the water. It may be observed however, that the river in summer has a sediment load that is enough to render the stream quite opaque; the winter flow is almost clear water. Problems of water quality arise when the river also is a vehicle for the removal of sewage wastes.

#### Waste Disposal

For the most of the village, human sewage is accumulated in shallow pit-privies dug in the active layer to depths of 3 to 4 feet; some dug deeper are into the permafrost table. These shallow pits require

frequent moving. In winter people may use inside bucket toilets that are either emptied in shallow open pits behind the residences or taken in plastic bags and deposited on the ice to be carried away in spring break-up. Some sewage has been simply thrown in the river over the bank; wash water is dumped beside the houses. There is no real problem associated with such practices during winter; everything freezes and is covered with snow. After melt in spring, the community runoff collects the thawing wastes, along with the contamination of dog manure and other discarded and decaying debris, and drains it across to the ditch next to the airstrip, and ultimately to the river below the town. The river terrace is reasonably porous but because of permafrost it does not drain well until late in the summer.

The institutional buildings, eg. school, R.C.M.P. and nursing station, have their own sewage systems. Each has a septic tank. The R.C.M.P. has a two-chambered tank inside, and effluent is pumped by an overhead "utilidor" to the drainage ditch near the airstrip. Both the school and the nursing stations pump from the septic tank to the area below the river bank. Effluent goes directly into the river at high water, but in summer, it spills out onto the lower slope of the bank, and drains into the gravel or into a nearby lagoon, and ultimately to the river. The Co-op has a holding tank for sewage which, when necessary, is pumped into barrels and taken by truck to the airstrip ditch directly behind the store. Beyond the airport apron the Fisheries Service has a camp with an open pit sewage lagoon just near the river bank.

### Garbage

Doubtless many people incinerate most household wastes in their regular wood burning stoves, but tins and unburnables are collected by the Band truck and transported to a garbage dump across the airstrip up against the edge of the hills. There it is buried, and the system appears to be quite satisfactory.

### Roads

Roads are really a widening of the footpaths that developed throughout the village. The construction of the airstrip after which there was a grader present in Old Crow marks the beginning of a road maintenance program. At the moment there are only a few 4-wheeled vehicles in town and there are few reasons for this situation to change at least until there is a road connection from Old Crow to the outside.

### Recreational Facilities

Land used for outdoor sports exists at the school and at the east end of the village. The school ground, about an acre in size, is maintained in the summer time, and is used mainly during the school period. Unless some event is specially planned for the school yard, it is not heavily used in summer because of the location at the far end of the village and away from the largest number of houses. The baseball field is at the east end of Old Crow and is about half the size of the school yard. It is not regularly maintained and survives as a

playing field mostly through usage. Back of the village are trails leading to the hills which have been used for ski trails in connection with cross country skiing. The ski program was introduced in 1955 and Old Crow developed a prominent reputation in international competition and was strongly supported by the community until 1971. Father Mouchet who is the chief architect and promoter of the ski program proposed to build a ski lodge on the edge of the hill beyond the airstrip. Unfortunately the site he selected became the new garbage dump. There are no other facilities assigned especially for recreation.

#### Present and Future Problems in the Physical Facilities of Old Crow

##### Space for Growth

There really is no space for a major expansion in the number of buildings in Old Crow. The airstrip and its safety zone prevents any more building along the river bank at both ends of the village. Individual buildings could be located in among those already there, but this would create a density that is not in keeping with the present need for space dictated especially by the way waste water and sewage wastes are now treated. It would be possible to build a road past the ends of the runway but only by crossing land that the Ministry of Transport and the Yukon Territorial Government would consider reserved for airport purposes. The airstrip safety zone on the south side of the runway prevents expansion very far inland from the river bank.

### The Needs of the Community

The first consideration for expansion is related to the village itself and the people and functions that exist at present. Replacement housing creates some demand for space. Most of the buildings in the village have been built since 1960 and in terms of newness, the housing situation is reasonably good. Besides, when houses are replaced, they tend to be built very close to the original, and when occupied the old house is cannibalized for firewood. The demand for new lots for houses will come for two reasons, a growth in population related to starting of new families and the necessity to replace houses that may be abandoned because of the erosion of the river bank.<sup>1</sup> The rate of erosion of the bank is not easy to state with certainty. Recently a record has been kept, and where major chunks of it collapses, one has the impression of very rapid retreat. In the summer of 1973 several feet slumped into the river and this accentuated the concern of the people who have been calling for an engineering design to arrest the erosion. J.W. Grainge gives the rate of retreat at about 10 feet per year for at least the past 20 years (Grainge; 1972:3). At the moment only one or two houses are in any danger although the Band Office is quite close to the edge. If no remedial steps are taken, then there will have to be plans to remove several buildings away from the river. There is very little space to allocate for such a solution. Since houses could be built to the northeast of the Co-op store and the density of

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<sup>1</sup> The 1963 map in the end pocket shows the sites of some of the buildings already lost to the bank erosion.

housing is not so great west of the R.C.M.P. as it is to the east. In terms of the number of people, about one quarter of the population lives west of the police barracks, and three quarters on the east side, -- and the barracks are about in the middle of the linear distance from one end of Old Crow to the other. On the west end or "downtown", are the institutions like the school, nursing station, and churches, and the white population. The homes of the Métis are also here, and the Indian people live to the east. It is expected that no difficulty would exist if a Métis family wished to find a suitable place to build.<sup>1</sup> If, on the other hand, an Indian family wish to build a house, there is relatively little space "uptown". Moreover, to increase the density among the existing houses poses a threat to health because of concentrating wastes like water, privy pits, and dog lines. Higher density also increases the danger from fire. With almost all heating and cooking by woodstoves and in log buildings, fire is to be respected and even feared, and space around a building is a necessary defense against it spreading. Unless the village has a proper sewage and water facility installed and is provided with adequate fire fighting equipment, no closer spacing of buildings should occur.

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1.

The 1963 map shows the lot lines in Old Crow, and while the building density in the west is low, it is because so much land is allocated to the government functions.

Health problems related to water supply and waste disposal.

So far, the privy system or shallow disposal pits within the village have not produced an epidemic or similar consequence. The surface runoff north to the airstrip ditch and into the river downstream from town seems to work well enough. Over time, however, the hazard builds up as slowly a few more houses are added, as pits are filled and privies are moved, etc. The Grainge report (1972:8) recommends a gathering system and a sewage oxidation pond as being consistent with acceptable health standards for a remote community. The lake north of the runway could provide the pond. A utilidor system might be contemplated but there are problems of gravity feed, a heat source to keep it from freezing, etc. It would require conversion to internal plumbing for both water and sewer. An above ground utilidor would be quite difficult to build with the present arrangement of houses, at least without seriously upsetting the access pattern in the village. If water and sewage need to be better managed in Old Crow, and other reports suggest that it is so, then the easiest acceptable solution would be water and sewage haulage systems.

At this juncture, the author is not aware of requests or pressures from the people of Old Crow for a change in the present way of doing things. Since the river provides a source of water and also carries away waste via the drainage ditch and the pumped effluent from the school and nursing station, there has to be good sense exercised in the timing. Obviously water is not pumped at the same time as sewage. For the most part this simple caution has allowed the present system to

operate without health consequences. The Old Crow Band Council has, however, encouraged the improvement of the drainage along the edge of the runway. What has to be carefully watched is the danger of a large source of sewage entering the Porcupine or the Old Crow River. Pipeline construction and a spread camp is such a source, although planning calls for an entirely self-contained camp, including waste disposal that will not degrade the environment. Accidental discharges should not be overlooked, and Old Crow should be warned if anything like that were to happen.

#### Planning for the Community Layout

The present location and arrangement of houses and other buildings appears to be without particular order. In fact, house location relates to the people who occupy them, because strong social and family considerations are at work in choosing sites for residence. There is also an historical dimension to the pattern with sites that have been occupied the longest next to the river. It has already been observed that west of the R.C.M.P. are the white institutions and the white residences and Métis homes; Indian houses are east of the barracks. Any attempt to alter the plan could have social consequences. It is understood that if servicing such as sewer, water supply or even gas if a pipeline were nearby, and roads would all be more easily engineered if an engineering plan and layout were developed. It appears that servicing the present plan would add to the engineering costs, and the imposition of an engineering plan would produce social costs.

Obviously, the case is one for careful consultation between the local and outside authorities. The problems related to servicing should be well considered before expansion of housing is undertaken.

### Roads

There are not many 4-wheeled vehicles in Old Crow. A few trucks are able to do most of the hauling necessary, mainly between the "airport" and town. The present roads, although narrow, are adequate for the very light traffic. In fact the roads are really for pedestrians, or skidoos in winter. This could all change if a permanent all weather road were ever built into Old Crow. The Dempster Highway is 150 miles away, and a winter road from that route was in operation in 1971. Quite apart from the pipeline possibility, the possibility of a road to Old Crow, at first in winter and eventually all weather, is great. There may develop pressure for it mainly as an alternative supply route to the cargo plane and the somewhat unpredictable river barge traffic from Dawson via the Yukon. The competitive advantage of road, plane and barge depends upon some sound guessing in this age of inflation, and rapidly changing fuel costs. Road transport, however, could have a cost advantage of 10¢/lb. over air transport from Whitehorse. Moreover, if there was access to the Dempster Highway, the supply lines to Old Crow might for some goods shift to the Mackenzie barge then road transport from Fort McPherson. Bulk fuel is an example. The consequence of a road might well be cheaper goods, but it will also increase traffic. Automobiles will appear and a pedestrian village

will certainly disappear. Tourism would be encouraged, and in addition to bringing "things" to Old Crow, it should be realized that a road "lets people out". In general the pace of life would increase, at least a little, contact with the outside world would be easier for both coming and going, and a range of services not now available in Old Crow would likely spring up. For example we might see taxis, restaurants or cafes, conceivably a trailer park, guiding services, etc. Doubtless there will be jobs created if a road comes to Old Crow. On the other hand, such a link is liable to affect the destiny of the village and dilute the influence and control the present inhabitants have over the character of their community. There is a need for careful thought before building a road to Old Crow.

Community Data

Water: Not organized. Government buildings have pumps.

Sewage: Privies. Government septic tanks, pumped to river.

Electricity: Diesel. Yukon Electrical Company. Capacity 150 kw;

Domestic rate 25¢/k.w.h. 34 domestic users; 6 commercial.

Resupply: Barge from Dawson; Air from Whitehorse.

Air Facilities: 5000 foot gravel airstrip, runway, lights and homing beacon.

Police: R.C.M.P., one man detachment.

Air Transport: Northward Airlines; \$83. Whitehorse, \$35. Inuvik, 22¢/lb. freight (1973 prices); twice weekly.

Medical: Nursing station; one nurse. Doctor and dentist visit from Whitehorse.

Education: 4 room elementary school up to Grade 9.  
3 teachers. High school in Whitehorse.

Churches: Anglican and resident rector. Roman Catholic.

Community Hall: One old one used as storage.

New Hall in Centennial Hall built in 1966.

Communications: Radio telephone. C.N. Telecommunications.  
R.C.M.P. radio. Telephone system throughout town.

Post Office: One postmaster; mail twice weekly.

Public Accomodation: Rooms and board available at Co-operative  
store: Accomodate 4 people.

Meals: Possibly available at Co-operative.

Liquor: Ordered from Whitehorse.

Business: Co-operative general store --- includes fuel.

Northward Airlines Agency.

Territorial Government Garage: truck, bulldozer and grader.



PART III

The Pipeline Project and its Effect

The Pipeline

The application by Canadian Arctic Gas Pipeline Ltd., is to build a 48" gas pipeline from the Alaska border across the Yukon to join a Mackenzie Valley line at Travaillant Lake the latter line will reach from Richards Island, N.W.T. to connect with the gas distribution system in Alberta. The Yukon portion of the line, if built, would be of concern to the settlement of Old Crow, and indeed the activity in the Mackenzie Delta region could affect the community. There were two routes proposed for crossing the northern Yukon.

The Inland Route

The pipeline alignment crosses the Alaska-Yukon boundary where Potato Creek flows into Canada, latitude  $67^{\circ}53'N$ . It passes south of Old Crow Flats, crosses the Old Crow River about 12 miles from the settlement and then in a direct route south of the Porcupine River heads to La Pierre House, threads through the Rat River Pass into the Northwest Territories. The distance in the Yukon Territory is approximately 140 miles. The main installations, compressors, are about every 50 miles and one is planned 10 miles east of the 141st meridian, another 25 miles east of Old Crow, and a third 5 to 10 miles west of La Pierre House (see figure 13).

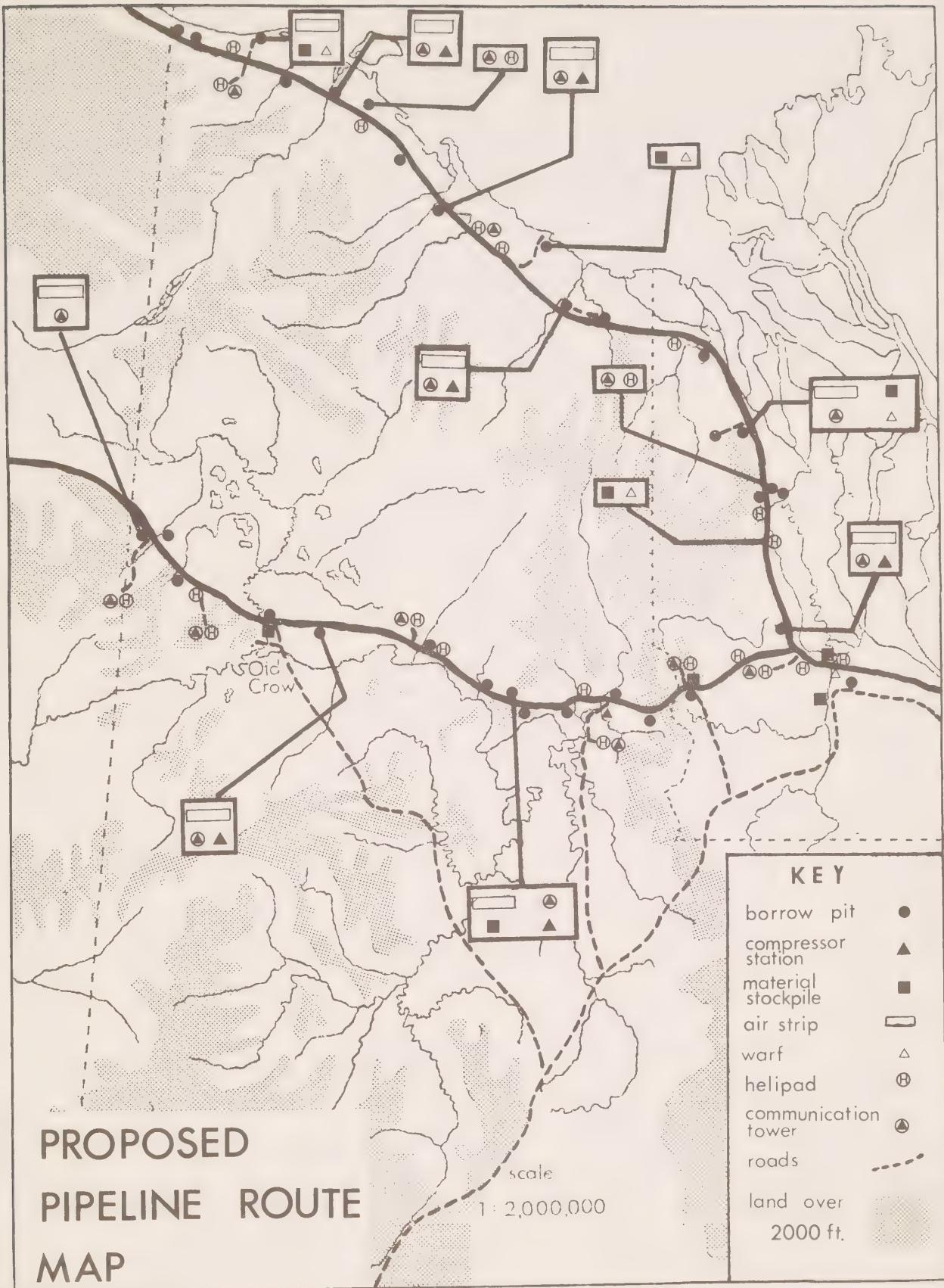


FIGURE 13

### The Coastal Route

The alternative coastal pipeline routing skirts the edge of the uplands staying close to the 500 foot contour and about 5 to 10 miles inland. Within the Yukon territory, the route is 100 miles long. Compressor stations on the coastal route are planned for a site just east of Malcolm River mouth, another near the Babbage River crossing, and a third about 15 miles before the line crosses into the N.W.T.

### The Facilities of the Pipeline

Once constructed, the pipeline could operate by remote control from the nerve center in Inuvik. The operating functions would be monitored constantly, and the physical facility of the line patrolled by aircraft at regular intervals. Opportunity must be provided, however, for access to any part of the pipeline for maintenance and emergency action. The company plans to provide 2400 ft. air strips and a number of helipads for these purposes at sites shown on the map. The locations of necessary compressor stations are shown, and for the construction period, the proposed borrow pits and material stockpiles have been marked. The spread camps or construction camps are planned at the sites of the material stockpiles.

Most of the construction would take place during two winters, the actual pipe laying in the second winter, and the intervening summers would be occupied with preparatory logistics. The highest level of activity and employment occurs in the winter. A time schedule proposes that the basic facility could be completed with five

summers and the four intervening winters following approval; the hope is to begin in summer 1975 and start-up the line from Prudhoe Bay in the summer of 1979. The lateral from Alaska to the Mackenzie Delta would be prepared in the second half of the project, therefore the major impact on the Old Crow region would be well after the project had begun. In a sense this could be an advantage because earlier experience elsewhere along the route would allow many of the problems to arise and be solved before reaching Old Crow.

Some construction will continue after the basic line and equipment are in place. As an increase in delivery is required, additional compressors, not shown on the map, will be built; plans call for construction until 1982.

Attitudes to the Location and Construction of the Pipeline

An attempt was made to measure the feeling in Old Crow to the proposed gasline. A series of questions were asked of adult individuals, and they were invited to respond on a five-point scale from strongly positive to strongly negative. The questions were "administered" rather than done on people's own time, and a map of the routes and installation accompanied the questions. The sample respondents were judged to be very representative of the community and evidence for this is given on page 183.

Attitude surveys are awkward to interpret. The base information of respondents was not controlled, and thus the evidence or understanding with which each individual recorded his or her judgement is not known precisely. It is the judgement of the field staff, however, that there is a fairly complete understanding of what a gasline is, and what will be involved in its construction. For some years now, the people have been visited by groups from government and industry to seek their views and responses to proposals of resource exploration and development. One of the counsellors, Grafton Njootli, has been employed by the Federal Government to visit settlements along the proposed right-of-way for the specific purpose of making sure people understand what is being proposed. Therefore, the questions in the survey were valid questions to ask, and they were comprehended on meaning and interest. In any case, if the respondent was unclear as to the meaning, the researcher was able to make explicit the details that would condition the response.

When asked a general question about the overall project, the replies are cautious but tend to the negative. People realize some benefits, particularly wages, but fear other consequences.

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How do you feel about a pipeline being built at all?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
-	20%	19%	35%	25%	1%

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Views are much firmer when specific routes are described.

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How do you feel about a pipeline being built on the Inland Route?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
-	4%	1%	34%	60%	1%

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The attitudes to a line near Old Crow harden towards the negative and integrate all the apprehensions about the environmental, social and political consequences. There are a few people, however who would agree, and it is interesting to observe that they are mostly men over 40 years old. The coastal is definitely the preferred

How do you feel about a pipeline being built on the Coastal Route?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
-	42%	33%	14%	5%	1%

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alternative, and it can be interpreted as an expression of approval for the project so long as it does not come close to the Old Crow region. People recognize the economic benefits and some wish to take advantage of them. The Coastal Route is probably perceived as a kind of "have your cake and eat it" situation, i.e., far enough away not to harm the village life, and close enough to go for a job. When asked about specific activity on the Coastal Route, the attitude is reinforced.

How do you feel about putting a construction camp at Shingle Point?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
-	42%	35%	18%	4%	1%

Attitudes become negatively skewed when specifics of the Inland Route are mentioned. The construction phase creates the most apprehension. When contemplating the locations of construction camps of

How do you feel about putting a construction camp at La Pierre House?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
-	8%	13%	45%	33%	1%

How do you feel about putting a construction camp at Driftwood River?

-	8%	8%	54%	27%	3%
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How do you feel about putting a construction camp near Old Crow?

-	5%	-	39%	55%	1%
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up to 800 men, there was negative opinion for all suggested locations, but as the sites came closer to Old Crow - i.e., La Pierre House farthest away, Driftwood River closer, etc. - the views became definitely negative. In fact there was no neutral position taken on an Old Crow construction camp. When asked about other features of the facility, there was essentially no variation on response. In each case the accumulated negative responses are more than 80% of the respondents,

How do you feel about a pumping station being built on the other side of Old Crow Mountain about 20-25 miles N.W.?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
1%	11%	5%	43%	39%	1%

How do you feel about a pumping station being built on the south edge of the Flats about 20 miles east of Old Crow?

-	5%	3%	49%	40%	3%
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How do you feel about a pumping station being built where the pipeline crosses the Old Crow River?

-	9%	4%	40%	46%	1%
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and it is the judgement of the report that the result fairly represents the community opinion. When the question about construction was put in another way, the interpretation of attitudes is reinforced. A very definite negative view is expressed about having large numbers of southerner labourers nearby.

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How would you like 100 men working on the pipeline to live near Old Crow?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
-	10%	3%	40%	44%	3%

How would you like 1000 men working on the pipeline to live near Old Crow?

-	4%	3%	35%	57%	1%
---	----	----	-----	-----	----

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Figure 14 is an attempt to map the attitude data. By giving the positive side of the response spectrum positive values, and the negative side of the negative values, a quotient of acceptability can be determined. As can be seen from the questions and the results given above, there is basic opposition. Thus the opposition can be expressed in the width of the line joining Old Crow to various sites on the proposed lines. The numbers on the sites are simply locational numbers. The width of the line shows a "distance decay" function; as one goes farther from Old Crow, the intensity of opposition from the people decreases. There is little opposition to the Coastal Route or the Shingle Point camp. The closer the facility comes to Old Crow, the more definite and intense is the negative view.

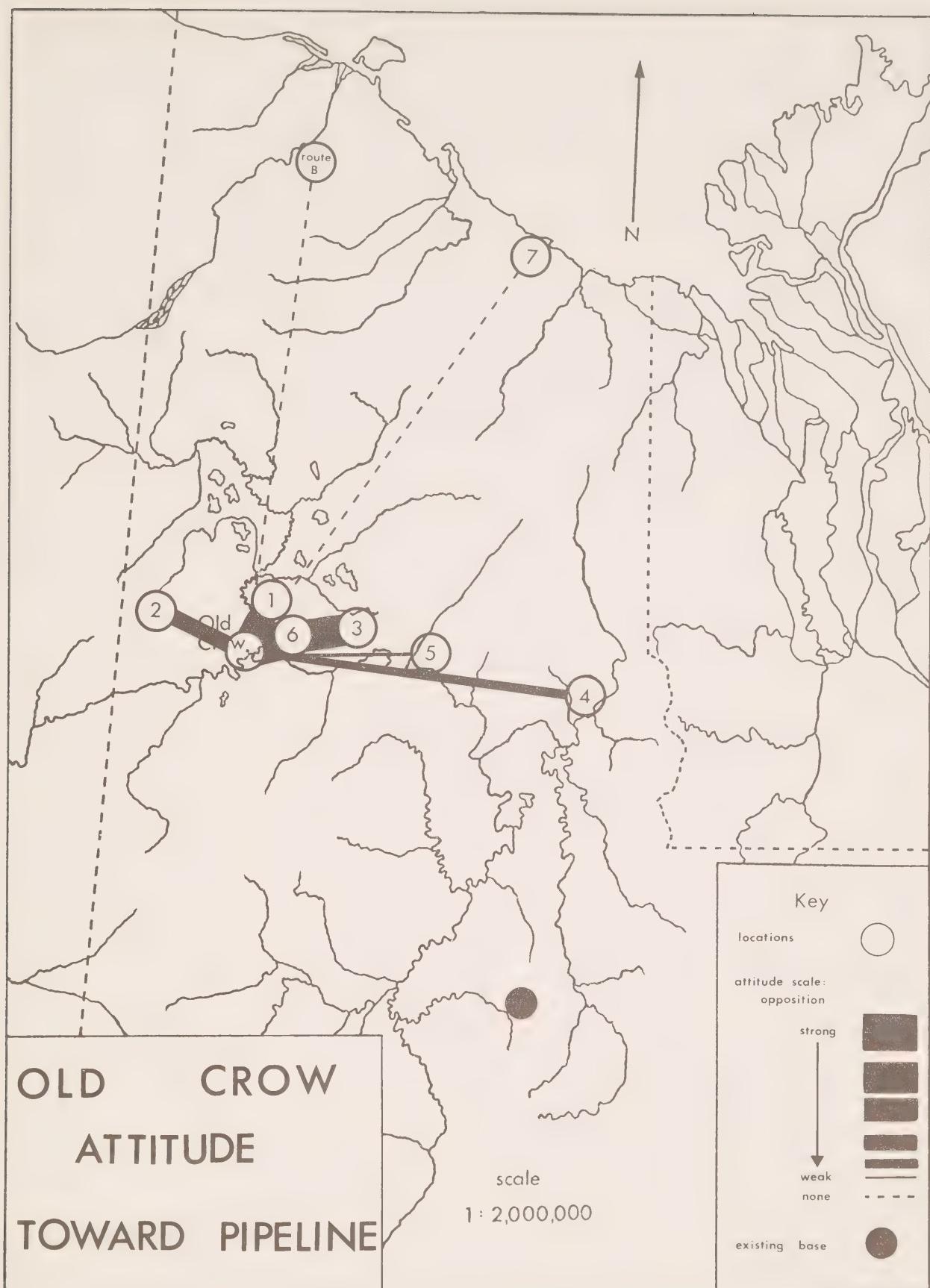


FIGURE 14

Non-Community Needs for Space in Old Crow

Any future need for building space that is not generated in Old Crow will be related to value of the services and functions of the settlement to either government agencies or private individuals, institutions or companies. An example might be the establishment of a base camp for co-ordinated environmental research from which geological, biological, hydrological, climatic and other types of study can be sponsored over a period of years. Either government or an institution like a university might be involved, and an existing example is the Polar Shelf Study Camp at Tuktoyaktuk, N.W.T. Demand for this sort of facility tends not to be permanent or it has a fluctuating level of use.

Another demand for space would be created by a major development like the gas pipeline construction. The pressure would be most acute if permission were given to build the Interior Route. The construction of a line in the vicinity of Old Crow is planned to be completed in a single winter, but preliminary work in preparation of the right-of-way and delivery and stockpiling pipe, other materials and equipment requires more time. The proposed schedule calls for beginning of ground surveying and stockpiling in the third summer after approval, with construction of compressor and metering stations, air strips and foundation pads and stockpiles during the next winter. The fourth summer is to be a mobilizing period, and the next winter is the time for actual laying of the pipe. This schedule applies more or less

equally to an Interior and a Coastal route (C.A.G.P.L., 13A; 1974).

The proximity of an interior route would have immediate demands on Old Crow.

The application by Canadian Arctic Gas Pipeline Limited shows the interior alternate route crossing the Old Crow River about 12 miles north of the village. The plan calls for a spread camp to be built just east of the crossing (figure 13). A winter road from the Dempster Highway would permit a stockpile of 25 miles of pipe at the site in the third winter, and various roads along the right-of-way and to borrow pits, and communication towers and compressor stations would be constructed at the same time. A communications tower and heliport would be erected on Old Crow Mountain by a road up its back side. Another two towers and an air strip are scheduled for the Alaska-Yukon border area near Potato Creek. A tower and air strip are planned along the right-of-way about a mile south of the lower Old Crow Flats, 15 miles east of the village. Yet another tower is to be near Driftwood River. In the subsequent or fourth winter after application the spread camp would be occupied by construction workers and the pipe would be put in place from the Alaska border to Travallant Lake, N.W.T.

The impact of this activity in terms of space requirements in Old Crow is not easy to measure. The consortium has plans to be as self-contained in their operation as possible and doubtless they will argue no real demands will be faced by the village. It has to be realized, however, that the existence of the settlement and its facilities will invite contact and a demand for the services. This is

especially true in emergency. Old Crow has a 5000 foot runway capable of handling large aircraft including jets and cargo planes like the Hercules. Any breakdown in the delivery system via winter road leaves the airstrip at Old Crow the only other immediate alternative. Even if planes operate smoothly, there will be extra air traffic in Old Crow, and it is difficult to see how a demand for space for storage of goods, parking of vehicles, both planes and trucks, dispatching and storage sheds, etc. can be avoided. If this is true, there is only one sensible possibility open for expansion of service land space, and that is on the north side of the air strip. It should also be pointed out that the existence of a winter road for two winter seasons at the least will add to the demand for space around Old Crow for much the same reasons as an increase in air traffic will require it. This reinforces the conclusion that such space is only available north of the airstrip.

If the pipeline goes ahead on an interior route the demand will be much higher than the choice of a coastal corridor. C.A.G.P.L. has already applied for the coastal right-of-way. If granted, the winter road to Old Crow will not be required. However, the air strip, because of its capability, will be the nearest alternative landing site for jets and cargo planes. It is conceivable that a demand for parking and storage space will be associated with this fact. In recognition of this potential requirement, by either pipeline route, the authorities should make plans to meet the situation which would follow the granting of permission to the consortium. Those plans should not be made without participation of the people of Old Crow. Any appropriation of

space affects them. For example, space south of the air strip would be taken only in direct competition with the requirements of the villagers themselves. A land alienation north of the strip could well interfere with hunting and recreational trails, caribou migration routes, and the village cemetery and path to it lies on the north side. Whatever the solution to the problem, it should be a negotiated one, and it should be found in advance of the need, and not by ad hoc processes at the time.

### Roads

Only if the Inland Route is selected will the question of pipeline impact affect the roads around Old Crow. The discussion of expansion space for the town touches on this matter. Construction calls for the building of temporary, wider roads associated with the right-of-way and the pipeline facilities. After the line is laid, the route will not be used except in winter for emergency. To build the Interior Route, however, will require a link to the Dempster Highway so that pipe can be delivered to the central section. Although this too can be a winter road, it is doubtful that there will not be pressure to convert it to all-weather use. The pressure will be economic related to the cost of supplies which now reach Old Crow mainly by air. Such a link will increase the vehicular traffic and there is little way, beyond outright ban, that cars and trucks will not wish to use some of the pipeline roads. It is quicker and less expensive to drive quite near the Flats by the right-of-way, or go further along the Porcupine to intercept caribou migrations.

A passing aircraft could report a migration east of Old Crow, and in a few hours hunters could reach the site by truck. There could be pressure for recreational use of the road, and it would be the most direct land link to Fort McPherson where many Old Crow relatives and friends live. It is hard to see how this pressure can be avoided, and one could expect the axis of life in Old Crow to shift from the Porcupine River to the pipeline right-of-way.

Materials for Construction

With the proposed schedule of construction and the outside figures of resource requirements by the Applicant (C.A.G.P.L., 1974; 13a.5:25), it is possible to estimate 300 tons of lumber will be required for the Prudhoe Bay lateral line. Without knowing the quality required, whether there is a need for roundwood or the quantity of sawn lumber, it is not possible to say what the local environment can supply. If the Coastal Route is preferred, no road exists to the forested region around Old Crow so that a locally based saw mill would be without cheap transport. Rough lumber or logs from Old Crow would at best fill an emergency supply situation transportable by air. This judgement is based upon the greater ease with which Mackenzie Delta based lumber and logs could reach the construction sites because the transportation network passes through the Delta. The consortium could furnish the specifics of their demand, and a judgement about a policy for exploitation of wood around Old Crow could then be based upon an assessment of supply, the reasonable costs of its extraction, and the economic consequences of requiring that region to be a supplier. The initiation of lumbering in Old Crow, for any reason, will consume some of the very short labour supply there and invade other opportunities for economic development. The post-construction consequences appear to be a return to quiescent time, much like today when no saw mill is required.

The Yukon construction phase will require perhaps 2,500,000 cubic yards of borrowed material and maybe 10,000,000 barrels of water for camps and wider roads. There will be associated trucking activity. The labour demand is one aspect, but the potential for truck owners to operate as private entrepreneurs is to be settled. Some individuals in Old Crow might seek to purchase and operate equipment under contract. This could happen no matter what route is selected. The people see this as a legitimate call upon government loan funds for the promotion of small businesses. There are likely no more than 3-5 Old Crow people who would carry such an option through.

The opening of borrow pits near Old Crow may well have a life longer than the construction phase. If the quality is good, and they are accessible with ease, they might be an improvement over local supply. Besides all the temporary roads are in distinct danger of gaining some permanence, and would require maintenance. Of course, if the Coastal Route were preferred, this would not apply.

New Government Facilitation for Old Crow

Regardless of the route selected for the pipeline, a number of government functions will be required during and after construction. These are to do with monitoring and control jobs, and with providing emergency services. Old Crow is a potential site for such bases because travel and observation is frequently by air, and the town has a high grade air strip with homing beacon, telephone linkage and is centrally located to patrol the whole of the northern Yukon.

One function that could be sited in Old Crow would be a game office for the patrol of both construction and operating consequences of pipeline construction. The Porcupine caribou herd is the central problem, but concern for bird life, furbearers, other large mammals and fish is not diminished but heightened by the amount of biological research that has occurred in the region over the past five or so years. Besides, the proposal for an Arctic Wildlife Preserve jointly with a matching zone in Alaska stimulates the need for a permanent office to deal with wildlife and the research and tourist-trade associated with it. The monitoring might be handled from Inuvik, but Old Crow people may wish to argue for the site, suggesting that their knowledge of the region is valuable, and that an aircraft based in the community would have advantages for the patrol and themselves.

Related to wildlife patrol is fire patrol and possibly emergency rescue facilities. The attitude to forest and tundra fires may well change if a pipeline carrying gas passes through the zone, and a small

but knowledgeable labour force exists in Old Crow for both fire fighting and rescue work.

The responsibilities of the R.C.M.P. may increase as the traffic in aircraft and/or boat arrivals reach Old Crow. The international aspects of the pipeline in the immediate vicinity could require extra help in dealing with more cross-border traffic. The right-of-way, if it becomes a road, and the possible link with the Dempster road would increase the human activity in Old Crow and add to the transient population. These events could have consequences that call for extra help for the Police. Another officer means another family, and that will have a local effect.

#### Gas for Old Crow

Only if the Interior Route were chosen would gas be available for the village. Such a source of energy could be the basis for many schemes of community use. The electricity could be generated by it, the houses could be heated either individually or centrally, even vehicles might be converted to be fuelled by it. Whatever use was made, it would have to be paid for, and without at least an installation subsidy, it is hard to see the local community finding the funds. Furthermore, once in use, the bill for fuel still needs to be paid. There is another cost to converting to gas; it removes the demand for firewood and would cut out a \$10,000 wage bill now being paid. It is the value of this income that has persuaded the school to continue the use of firewood for space and water heating. If gas were put in the school,

the need for the current number of janitors might easily be reduced, and another salary lost to the community.

The costs and benefits to conversion to gas are only one aspect of the decision making. The opportunity for men in Old Crow to be gainfully employed is another consideration. If replacement jobs are present, the loss of wood cutting and janitorial work could be accepted. It is worth noting that every year people have to be reminded of the chance to sell wood to the school, but somehow every year the school gets its quota.

Impact of a Pipeline Project on Old Crow as a Source of Labour.

At first glance, the requirements for labour in both the construction and post-construction period are well beyond the ability of the local population in the north to supply. The consortium in its application shows that in the Mackenzie Delta area alone the permanent labour force need by 1983 will be 800 persons. In addition a temporary or moving labour force between 300 and 1500 persons has been forecast. (C.A.G.P.L., Section 14f, Appendix A). The needs for people, permanent and temporary, in the Delta area is expected to grow as follows:

Table 31

Projected Labour Requirements in the Delta Area 1974-1980

	1974	'75	'76	'77	'78	'79	'80
No.	400	750	1680	1750	1970	1710	1425
Skilled	13%	16%	26%	26%	26%	23%	25%
Semi Skilled	34%	46%	36%	36%	36%	36%	38%
Unskilled	53%	38%	38%	38%	38%	41%	37%

Source: C.A.G.P.L., 1974, Section 14f, Appendix A.

Provided that a policy of "northerners first" is applied, there seems little reason to deny that opportunity for wage employment is more than adequate. Even if a regionalization were applied to employment, i.e. native people from the general Delta area get the first chance to be employed in that region, there should still be many jobs without people to fill them. Using the government N.W.T.

manpower statistics for 1969 and "up-dating" them to 1974 shows that in the combined communities of Aklavik, Arctic Red River, Fort McPherson, Inuvik, Sachs Harbour, Paulatuk and Tuktoyaktuk, there are about 775 men and nearly 800 women of employable age - 15 to 55 years. If we accept the estimates for manpower need by the Applicant, then a year after the granting of permission to proceed, all of the employable native men from the Delta region would not be enough to supply the semi-skilled and unskilled jobs in that region alone. This does not allow for the fact that many of these people are already in wage employment.

In the applications to both the National Energy Board and the Department of Indian and Northern Affairs the Canadian Arctic Gas Pipeline Ltd. has set out its estimates for employment as a consequence of the project (Table 32). It shows direct employment for construction and operation, indirect employment on the jobs related to supply and transportation, etc., and secondary employment generated in the service industry surrounding the enterprise. The table also shows a column of 25% of the total so that an estimate may be made of the jobs native northerners might fill without major change to the skills they already possess. Against this estimate of job opportunity the consortium have estimated the pool of employable northerners, i.e. available for employment, to be fewer than 600 persons in the entire region north of 60° (C.A.G.P.L., section 14f:4.1). Elsewhere, they estimate that the project related employment will after the first year of construction require up to 50% more labour than can be provided by all males age 15 to 29 in the region. After the project is operating the enterprise could

Table 32.

Direct Employment in Man Years  
1975-1981

	Construction Phase			<u>Indirect</u>	<u>Secondary</u>	<u>Total</u>	<u>25% Total</u>
	<u>Skilled</u>	<u>Semi-skilled</u>	<u>Unskilled</u>				
1975	124	56	73		1,362	272	1,887
1976	668	189	256		2,775	551	4,419
1977	1,545	449	498	130	2,820	590	6,032
1978	1,483	413	535	189	3,042	646	6,308
1979	1,070	208	223	201	2,787	598	5,072
1980	561	108	115	208	2,037	449	3,478
1981	480	93	99	208	2,060	326	3,394
1982	---	---	---	---	---	---	1,956
							489

Source: C.A.G.P.L., 14c.4.1, 4.4, 4.5, 4.6 and 4.7 (1974)

consume about 40% of the labour potential of this age group (C.A.G.P.L., section 14c, table 4.9). A comparison of this data with measure of current employment (*ibid.*, table 3.8) shows that jobs now staffed require about the same amount of labour (6,300 man years) as the project would require in peak times (1978 projects 6,300 man years). This does not take account of the skill levels required or available.

#### Consequences for Old Crow

It does not seem necessary to analyze in great detail the applicants' forecasts of labour need. From the viewpoint of northern people, it should be paramount that they have the first claim on jobs that develop. Furthermore, they could argue that steps be taken to equalize their opportunity to share in those jobs that have high skills and corresponding pay scales. If these two conditions could be guaranteed, then given the present level of wage employment and the labour pool that is available from the native northerners, there seems to be no reason why anyone who wishes to work on the pipeline or related tasks should not be offered some job or other.

If we assume that the employable men are those between the ages of 15 and 55 years, then the labour pool of the local people in Old Crow is shown in Table 33. It is derived from the age/sex distribution of the present population, for the boys who reach 15 years in 1983 are already born. There are some men who are regarded as Old Crow men but who live elsewhere. They are also shown on the table

and since most are either living in the Mackenzie Delta communities or in Whitehorse, they may well return if opportunity existed. These figures do not allow for in-migration because apart from transient whites who stay in the village for a few years, there is little evidence of natives moving to Old Crow from elsewhere. There are examples of spouses coming from outside who settle but they are not consequential to the data.

Some of the men in this age group are already employed. There are at least 16 permanent salaried jobs, 13 of which are occupied by men, mostly related to servicing the various government functions in the settlement. A better image of wage employment is to be gained from the pattern of activities for local people reported in a monthly basis from July 1971 through June 1973. In each of these twenty-four months there were never fewer than 20 men employed for wages, and the mean monthly employment was 33 persons (see figure 15). Apart from the 16 permanent jobs, this employment was casual labour related to air strip construction, carpentry, assistants to various survey crews, oil company work, etc. Table 34 shows that in the last decade permanent jobs have increased 5 times, and the part-time jobs by about the same amount. In all wage jobs only 38 men and 19 women were involved in 1973. It is not wise to project this type of activity and work opportunity into the future except to the extent that the general level of economic activity in the larger region continues. If that is so, and certainly if a pipeline is built, there will be jobs of the kind that are now available at least in the same numbers.

Table 33Old Crow Men Between Age 15 and 55 Years

1974	75	76	77	78	79	80	81	82	83	
51	54	55	58	61	63	67	67	71	70	(In Old Crow)
9	9	10	11	11	11	11	10	10	10	(Away from Old Crow)
—	—	—	—	—	—	—	—	—	—	—
60	63	65	69	72	74	78	77	81	80	Total

Source: field data

Table 34  
Employment Opportunities

Type:	1961 <sup>1</sup> full time	part time <sup>3</sup>	1972-73 <sup>2</sup> full time	part time <sup>3</sup>
Janitor	2	0	6	0
Guides or helpers	0	4	0	7
Trader or co-operative	0	1-2	2	3
Labourer:				
Indian Affairs	0	5-10	0	10
Yukon Gov't.	0	0	0	2
Oil Companies	0	0	0	19
D.O.T.	0	0	0	2
Fisheries	0	0	0	1
Renewable Resources				
Renewable Resources	0	0	0	7
Forestry	0	0	0	1
Special Constable	1	0	1	0
Equipment Operator & Truck Driver	0	0	0	4
Teacher Assistant	0	0	1	0
Weather Observer	0	0	0	3
Post Office Clerk	0	0	1	0
Band Secretary	0	0	1	0
Band Manager	0	0	1	0
Airline Agent	0	0	1	0
Domestic	0	0	0	2
News Reporter	0	0	1	1
Forest Fire Observer	0	0	1	0
	3	10-16	16	62

<sup>1</sup> from Balikci (1963:96)

<sup>2</sup> To up-date DIAND Yukon Indian Manpower Survey, 1971,

<sup>3</sup> up-dated by field data.

Number of people with more than one job: 1961 - unknown  
1972-3 - 22

Surprisingly it is not easy to forecast reliable figures for men who would be available and willing to take up jobs related to a new pipeline, even in a community as small as Old Crow. One can begin by taking the men of appropriate age, and then subtract the permanent jobs which have to be filled. As a measure of the current "interest" and "availability" for wage jobs, we may take the employment activity of the last two years. Thus it seems wage work will employ about 25 to 30 men on continuing basis. It follows that 30 to 35 men are not employed for wages now, and without allowing for job changes around Old Crow, the number without wages will be 35 to 40 at the time of peak employment chances related to the pipeline.

Not all opportunities for employment will be for men. In fact a few women in Old Crow already have wage earning jobs; during the past two years four or five have continuously worked for wages in Old Crow and other girls from the settlement are steadily employed outside. But most women are occupied with homemaking; there are only four or five women between 15 and 55 years who are not occupied fully with either house, job or school, or some combination. Their attitude to work for the pipeline, being away etc., is included in the section on attitudes.

Attitude to Wage Employment on a Pipeline Project

A series of questions about attitudes were presented to the adult residents of Old Crow. Both men and women were approached and the attitudes reported here are aggregated on the understanding that women influence men's opinions and vice versa.\* Although not a complete population, the sample is taken to be a good one for the native residents in Old Crow; the table below is given as evidence.

Table 35

Comparison of Attitude Survey Respondents to Total Population  
1973

Respondents			Total Population		Respondent % of Total
15-25 yrs	33	43%	52	47%	63
26-40yrs	7	9	14	13	50
over 40 yrs	37	48	45	41	82

When asked if pipeline work would be of interest, just over half of the respondents expressed positive interest, a quarter of them gave negative answers, and the rest were neutral or offered no opinion. The interest is affected by the routine of the work, and there is a

Are you willing to work for the Pipeline?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
1%	51%	14%	20%	5%	9%

\* The data were examined on the basis of sex; apart from women being slightly more conservative than men, it was judged to be of minor significance to make separate analyses.

modest preference to work 10 days on and 5 days off, over 20 on and 10 off. These routines do not much affect general interest. There

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Would you work on the pipeline 10 days on and 5 days off?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
3%	49%	14%	21%	4%	9%

Would you work on the pipeline 20 days on and 10 days off?

4%	41%	17%	26%	4%	8%
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seems to be some preference that the work be more or less steady because when asked if people would like a seasonal job, all winter, most of those expressing interest in the first place agreed to work all winter. The prospect of a prolonged employment, however, brought a negative response

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How would you like a seasonal job on pipeline construction (all winter)?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
1%	38%	14%	34%	4%	9%

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from almost as many people indicating a divided camp. Being away without the prospect of getting home is slightly less desirable. Compare, for example, the response to a postulated two weeks and then two months away from home. People recognize that an absence of a couple of

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Would you be willing to work on the pipeline away from home and family for two weeks?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
11%	20%	23%	31%	8%	8%

Would you ... work ... away from home and family for two months?

9%	13%	21%	44%	5%	8%
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months makes them "homesick". If given the alternative of working away from Old Crow and the chance to move the family to the job, most people would decline. On the other hand, people recognize

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Would you move your whole family away from Old Crow to work on the pipeline?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
3%	6%	17%	61%	8%	5%

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the need for training for some jobs and appear willing to take some form of training even outside the north. There has been enough experience with "outside" and other training programs so that they hold no

How do you feel about taking special training outside for work on the pipeline?

Strong Yes	O.K.	Don't Care	No	Strong No	No Response
20%	26%	10%	30%	6%	9%

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apprehension for Old Crow residents. Attempts to correlate the responses to the age distribution of the respondents did not show significant results. It must be concluded that attitudes reported above apply to the whole community.

### The Impact of a New Opportunity to Earn Good Wages

As has been pointed out on the discussion of the Old Crow labour pool, there are up to 30 people who might take direct advantage in the construction of the pipeline; there may be more who already have jobs who will give them up for the new enterprise. A situation of full employment will be created for two winters and probably two summers, and depending upon ancillary activities like clean-up and accelerated oil and gas exploration, it could last longer. The first consequence will be a good source of cash income to the community.

Extra money, in cash, is a mixed blessing. It can upgrade the living standard of a man and his family for food, clothing and shelter. If a man works full time for wages, the chance to hunt caribou or to fish for his family is correspondingly reduced, and wages will have to substitute with store bought food. Food prices in Old Crow are high, and good wages do not go as far as might be expected. The mark-up over wholesale Whitehorse prices at the Co-op is: groceries 25%; hardware 40%; dry-goods 30%; gas and oil 30%; all others 10%. In addition, there is mark-up on freight. (Co-op manager, personal communication.) With a local cost of living at least 25% over Whitehorse, more wage money will be spent outside. The trend to outside purchasing was illustrated in the discussion of the cash economy of the village, and it would likely continue with a new wage source. In 1973 for example, approximately 63% of the cash earned in Old Crow was spent outside the village compared with 42% in 1971; in the same period the wage employment

trend, from a sample of the population, rose from 21% to 29% of both men and women over 15 years.

One aspect of the cash flow picture in Old Crow for which no data was collected is personal savings. The information was regarded as private and, in any case, most people do not have income enough to permit surplus cash to accumulate. There are no banking facilities in Old Crow unless the Co-op was persuaded to help out temporarily. With no bank and very little experience with savings and fiscal management, there is a great danger that high wages and surplus cash would lead to free spending. It might be quite worthwhile for banking opportunities and counselling to be made available to pipeline wage earners. Free spending brings with it an opportunity to demonstrate one's stature to friends and relatives. This practice has its cultural roots in the potlatch ceremonies and recent feasts. Material items can be accumulated; skidoos, kickers, boats, etc. are visible signs of wealth. Spending may also take the form of increased travel, mainly by air. With the pipeline project, there would likely be an increased demand for charter flights in small aircraft for trips to the Flats, visits to Inuvik and McPherson or for short hunting and fishing trips. Visits "outside" would probably increase. The most worrying consequence of free spending is rise in alcohol consumption. This prospect creates real apprehension in the minds of many Old Crow people, and will be discussed under the Impact on Family Life.

### Business Opportunities

The 1972 Pipeline Guidelines of the Federal Government provides that contracts and sub-contracts be organized to allow and encourage bids from native organizations, settlement councils and local contractors. (Canada, Gov't. 1972:28) Not many natives on the pipeline area and none in Old Crow have equipment or experience to enter the contracting race. There are, however, several ways in which this might develop. There will be a great demand for trucking. Local people could own their own vehicle and hire themselves and their truck to the enterprise. There will be a demand for site clean-up along the right-of-way which could be sub-contracted. Groups of men may contract to assemble buildings or do other carpentry. Someone or more might propose a courier service for small goods, messages and parts along the right-of-way, etc. There could be an opportunity for fish and game guiding. These are only a few examples.

For the people in Old Crow there could be a choice; they might hire on for wages alone, or they might develop a small business to contract out. The latter represents a challenge to operate at a different level in the white man's world. The financial return and a chance for post-construction continuation may be attractive over cash for labour, at least to certain individuals. The government loan policy already identifies small business as desirable for northern people, and the policy should be made explicit in advance of a major development. This could be done by helping local people identify likely areas of contract work and through the loan system have them

prepared with equipment or other services in time to make valid bids and receive contract work.

It is recognized that the choice of pipeline route would make a great difference to Old Crow in the matter of contracting; the Inland Route would be far more stimulating. The seemingly preferred Coastal Route, however, could attract one or two Old Crow people to entrepreneurial activity.

The C.A.G.P.L. can be expected to be wary of the government guidelines on contracting mainly because of the need to have the whole delivery and construction exercise thoroughly orchestrated. A delay or breakdown has ramifications, and the unknown quality of native contractors will doubtless increase the company's caution in awarding jobs.

Consequences of the Pipeline for Traditional Activities

A reading of the report to this point will have made clear the changes in emphasis from time spent on traditional activities to those of wage employment and other vocations. It can be given sharper definition by looking at the most recent changes since 1971. The average use of time by adult men and women is shown on Table 36.

Table 36

The Average Time Spent in Various Activities, 1971-1973

<u>Activity</u>	<u>Men's Time</u>	<u>Women's Time</u>	<u>Total Time</u>
Hunting	4%	-	2%
Trapping	7%	1%	4%
Woodcutting	3%	-	1%
School	2%	9%	6%
Labour	33%	2%	18%
Tradesmen	6%	6%	6%
Equipment Operator	2%	-	1%
Housework	-	72%	35%
Other - Pensioners	13%	2%	8%
No Activity	30%	8%	19%

Source: field data

Among the men, labour took a solid part of their working time. It may be compared, however, with housekeeping which is essentially a full time occupation for many women; the employment in labour, tradesmen and equipment operator classes has still to increase before it approaches the "full employment" of housekeeping. The relatively higher unemployment among men is noticeably different than for women.

Activity is better observed over time and is plotted for the men only on a monthly basis in figure 15. The seasonality of certain activities is obvious; spring ratting is followed by fall caribou hunting, to drop again in winter and rise the next muskrat season, etc. There is something of a complementary pattern to wage activities; when hunting or ratting rises, wage employment drops. But the examination of the straight-line trends fitted to the data reveals that both wage employment and traditional activities have increased over 24 month period. It is understandable, therefore, that the "no activity" line trends downward. Other activities remain pretty even from the beginning of the period until the end.

The upward trend for wage employment is bound to be reinforced if the pipeline project goes forward. The trend for traditional activity is less convincing, and is rising slowly because of renewed interest in the muskrat harvest. The people themselves perceive that a pipeline project would alter the need and the inclination to go hunting and trapping. For example, consider the following responses to questions given to a sample of adults.

# OLD CROW ACTIVITY PATTERN, Jul 1971 - Jun 1973

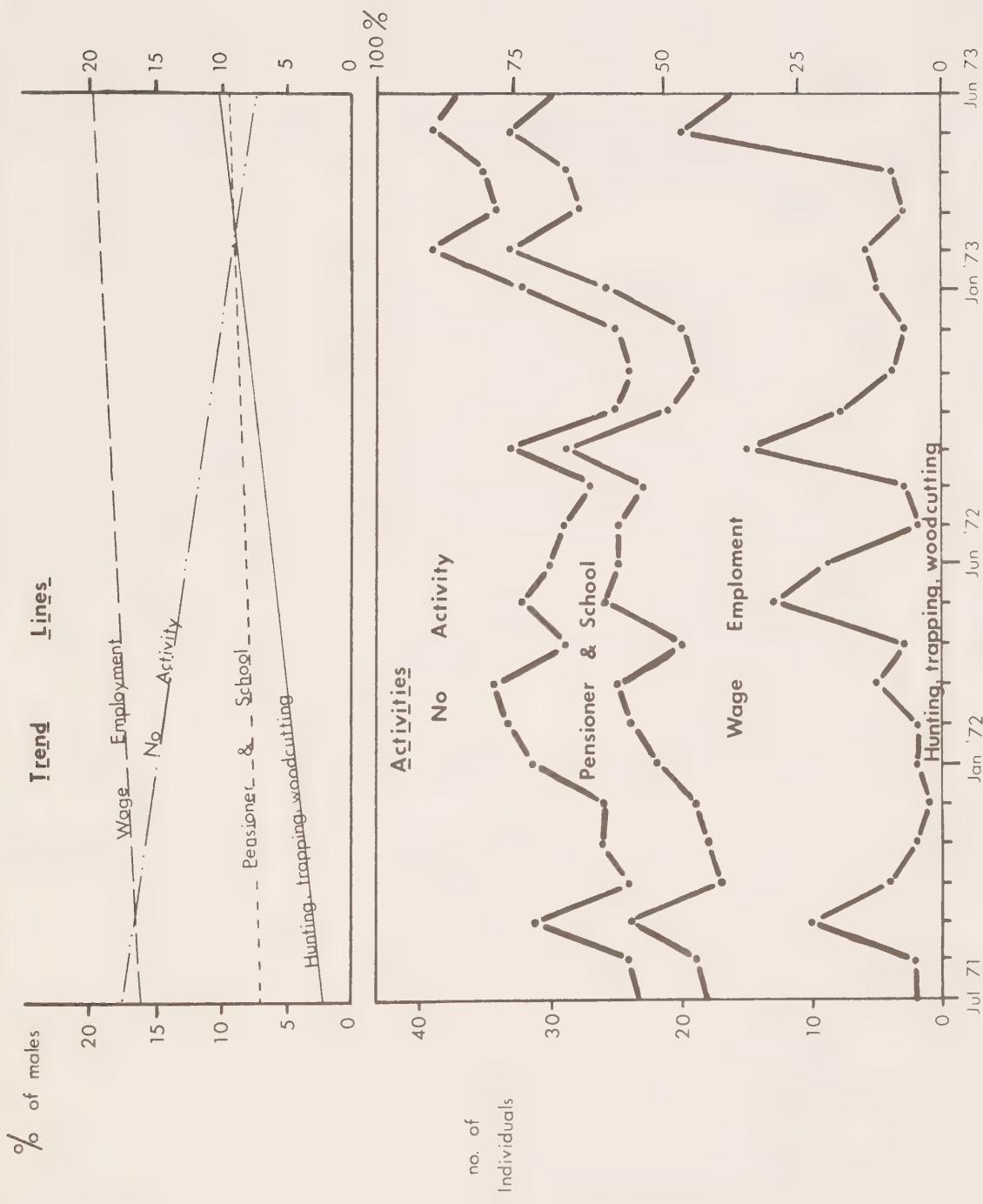


FIGURE 15

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If a pipeline was built, how much do you think people would depend on the land for food and money from furs?

A Lot More	More	About the Same	Less	A Lot Less	No Response
-	16%	27%	30%	23%	4%

If a pipeline is built how much hunting do you think the people will do?

-	-	34%	43%	21%	2%
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If a pipeline is built on the Interior Route, do you think as many caribou will cross the river where they used to?

-	3%	23%	30%	43%	1%
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They generally agree that hunting will be affected, partly because there is fear that an interior pipeline would alter the migration problems of the herds. The prospect of wages would, in the short term, lure men away and reduce the hunting. What is more important is the concern expressed that a short term wage prosperity will "spoil" hunters and they will not hunt with the same enthusiasm and experience as before going away to the job. The same thinking appears to apply to muskrat trapping and

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If a pipeline goes in, how often do you think the people will hunt and trap rats?

A Lot More	More	About the Same	Less	A Lot Less	No Response
-	-	31%	32%	29%	8%

If a pipeline were built nearby, do you think there would be as many muskrats as now?

-	3%	42%	31%	23%	1%
---	----	-----	-----	-----	----

How much do you think people will fish if a pipeline is built?

-	1%	43%	35%	20%	1%
---	----	-----	-----	-----	----

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fishing; most expect less interest in trapping and there is some concern that muskrats themselves will be affected by the construction nearby. Other associated characteristics, like dog-team travel and the use of boats, are expected by everyone to decline in importance, and a general drift away from land-oriented ways to follow. Moreover, people seem to perceive the role of hunter/trapper in a less favourable

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If a pipeline is built, do you think that hunting and trapping would be seen as a good occupation by the people?

A Lot Better	Better	About the Same	Poorer	A Lot Poorer	No Response
7%	14%	22%	39%	17%	1%

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light; although there is something of a "backlash" judgment from a few individuals who say the traditional role will have much more prestige after the pipeline project.

Concern for Archaeological Sites

The Preliminary Archaeological Study, Mackenzie Corridor (Cinq-Mars, 1973) is the best source of information and professional concern for pre-historic sites and evidence. It remains here but to underline the worth of discovery, preservation and study of Kutchin pre-history in the Old Crow region that is expressed by the people themselves. There is, in Old Crow, a high level interest and pride in unravelling the story of their forefathers, and any activity which accidentally or by design destroyed some of the evidence would be strongly condemned.

The Impact Upon Family Life

During the past 20 years very rapid changes are taking place in northern native families. The influences of "outside" - government, industry, radio, southern experts, education, health and housing programs, etc. have buffeted the family unit. The stereotype of the clear division of labour, a role for men (provider) and a role for women (homemaker and child rearer), with obedient and respectful children, is being eroded. The nobility of a man succeeding with his family in a hard environment still commands respect, but we now hear that "people can't live like in the old days". Without trying to explain the change or attach blame, the need for school education has reduced the dependence of children of secondary school age upon their parents, and in terms of capability in the modern north, has put some distance between parent and child; this is to some extent a northern version of a generation gap. Mothers also gained a small measure of independence with payment of family allowances. The hardships of the trapline succumbed quite easily to the chance of a winter job even for a month or two, or all year round if it were possible. In short, many families experience a growing distance between their members and some threats to the security of family life. Old Crow, perhaps, because it is not so easily accessible or is off the beaten track, has very few, if any, overt examples of open family rebellion and decaying family structure. However, the future is most uncertain, and anxiety exists about avoiding a decline in family life.

The changes in family life can be illustrated. For example people reported why they left home. Over time the reasons for leaving

Table 37  
Reasons for Leaving Parents' Home

	<u>1973</u>	<u>1960</u>	<u>Long Ago</u>
School	44	11	4
Marriage	30	11	12
Jobs	26	5	-
Travel	1	1	1
Different Life	7	-	-
Don't know	3	2	-

Source: field data

the nuclear family change from marriage long ago to schooling, and recently, for jobs. Now people report leaving for such a vague but real reason to "have a different" life which may be taken as a sign of unrest. Another indication of change is in the disciplining of children; now the teachers are granted responsibility to reprimand children, a responsibility that formerly belonged wholly to the parents. Children's allocation of time is different now; long ago, and even in 1960, more than half the informants reported that young children worked 5 to 6 hours a day, while nowadays the majority do chores for only one or two hours. The play time pattern is reversed. The older children, over 11 or 12 years, have more jobs to do and can work around a full day if they are

not in school. This is a pattern that was also true in the past. In most matters dealing with children, the consequences of having a school and the tyranny of the school routine, are a conditioning factor.

The relationship between parents and other adults in the family circle is less easy to measure. Rather than try to identify and document how adults treat each other, a series of questions was put to determine how people would expect the future to be if a major development like the pipeline were built. Although they are imprecise about what change will occur in family life, the people express their concern by saying that it will alter "the way the family works together". In fact, 38% of the respondents to questions suggest a major change and another 29% believe there will be some changes while only 20% say it will stay about the same. They are concerned too that men will be away and 42% of the people say they will spend less time with the family, and 17% say much less time. Even women might be affected; 21% of respondents say if a pipeline is built women will spend less time with their families. They also expect a project like this would cause the young people to leave; over 50% of the people report that young adults would probably move out of Old Crow.

The area in which there is strong opinion, is the effect of the pipeline upon drinking. People clearly indicate it would increase

If a pipeline were built, do you think it would change the way people drink in Old Crow?

Much More	More	Same	Less	Much Less	No Response
56%	23%	16%	3%	1%	1%

drinking, and there is reason to believe that such an observation is not a neutral one. More drinking is seen as bringing with it child neglect, promiscuity, physical violence and possibly accidental injury or death. Such concerns are not confined to parts of the society, like mothers or old men, but are generally shared by all the people. One gets the impression that for some people there is a fear that they themselves will be affected almost beyond their control. This report certainly cannot offer a solution to a problem which plagues the north; all it can do is to say that a pipeline project, even with the most careful controls, will aggravate it.

### The Impact Upon Community Affairs

To Old Crow people, the pipeline in an undefined way, symbolizes the rush of modernizing events. It creates pressure and tension particularly for decision making. At the community level this means that the leadership and local government are continually being faced with difficult decisions and that they come increasingly in contact with well-prepared and skilled advocates and adversaries.

Among some people there is a worry that the way community affairs are now managed may be altered, and indeed increasingly bureaucratic society of the south will move in and dilute the local influence over local questions. This problem is expressed more specifically by thinking about the consequences of, say, five families from outside moving in to Old Crow, or even more families.

How do you feel about more tourists coming to Old Crow?

Strong Yes	Yes	Don't Care	No	Strong No	No Response
7%	26%	17%	36%	13%	1%

How do you feel about twenty families from Outside moving to Old Crow?

-	6%	9%.	57%	25%	3%
---	----	-----	-----	-----	----

How do you feel about five families from Outside moving to Old Crow?

-	12%	14%	53%	18%	3%
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How do you think outsiders would change the dances in Old Crow?

No Change	Some Change	Moderate Change	Large Change	Complete Change	No Response
7%	14%	32%	22%	22%	3%

How do you think outsiders would change the way the community runs its affairs?

5%	11%	13%	29%	38%	4%
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On the questions related to tourists and how outsiders will influence social events and town government the expressions of concern are clear enough. People do not want outside families to move in although tourists would be welcomed or tolerated by half the community. Outsiders, however, could change social events like dances by importing their own values and modes. The impact on local government is of more concern. At present scarcely a Band meeting is held without the presence of several non-natives who may take part upon invitation from the Chief. Yet their presence alone may in some way be seen to affect the meeting or its decisions.

The expressions of concern for possible change is a natural conservative feeling and in part says there is fear of the unknown. It should be realized also that the expressions of concern are messages that say, "we want to maintain our independence". Attempts by outsiders to allay apprehensions about change whatever the cause will always be only a partial solution because resistance or reluctance because of pride and independence may still persist after complete understanding.

PART IV

Summary

Summary

The contact history for the Kutchin people of Old Crow is now approaching 150 years; the continuous White-Indian exchange of goods and ways has been going on for a century. Yet in the last decade the pace of change is almost like compressing the last century tenfold. The report in various places tells of the inrush of the outside world and the pressure upon the community and its leadership to agree, to decide, to make up its mind, to say what it wants. The research tried to help clarify the attitudes and ambitions of the people by going to them directly and then aggregating their views. What has emerged is a picture of Old Crow not yet completely caught up in a headlong and uncontrolled reach for the new material world. It is a community that is trying very hard to move to the future along a course the people themselves wish to choose. The evidence for such conclusions lies in the fact that country food and, to a lesser extent, traditional activities are still important economically and culturally. Over half the people get more than half their food from the land. The muskrat season at Crow Flats is gaining in popularity. Autumn hunting trips remain annual excursions for most men and boys. In town you can observe women making leather and smoking fish, and most wear traditional snowboots, moccasins and mitts. At the same time there is a rise in the income from wages and some people are prepared to leave the village for work, training and school. Almost all young people are functionally literate in English and there are a number who

possess marketable skills and vocational training. Old Crow has strong leadership; in the village are men and women who are wise and know how to exert influence. Doubtless there have always been respected men, but recently the leaders have been able to convey to the outside world the importance of local views and expectations.

In the village there is some confidence in the future.

In spite of the relatively controlled change in way of life, the seeds of decay are present. The existence of wage opportunities and the prospect of them increasing, leads to economic independence of individuals. This, in turn, can break down the interdependence among people, affects the cohesiveness of the family, and may cause personal destruction through gambling and liquor. There are many examples of this decay process in northern towns, and people in Old Crow do not wish to have it happen to them. But wages are not all bad. Cash is now a necessary item because people wish to travel more, purchase goods outside, have new skidoos or kickers, improve the house and be able to feed and clothe their families adequately. The traditional life may have allowed a man to be independent, but the economic uncertainties and the physical hardships were a high price to pay. Now jobs bring a greater economic gain in a shorter time and with less overall hardship than life in the bush. It is not surprising that wage employment has some attraction.

The pipeline project will offer plenty of chance to work, at least in the construction period. For Old Crow, the construction season will not be more than two winters with some summer jobs.

A short span opportunity like this could disrupt the community by taking people away from other jobs and by increasing the cash flow. What is less predictable is the aftermath. People in Old Crow generally sense that after a pipeline many things would be different. Fewer people would go to the land-based activities, fewer would use dogs and boats; many would travel more, spend more, eat store food, drink more, etc. The positive effects like training, increased wealth and experience could be dissipated or go unused after the project finishes. However, if there were one, two or three more jobs on a permanent basis for Old Crow men as a result of the pipeline, then a few more families would have economic security; the value of this prospect is recognized and desired.

The pipeline project considered in abstract can be seen in Old Crow to have economic benefit along with social liability, but if one raises the prospect of a specific route for the line just north of the village, there is very clear opposition. On almost every ground, but especially the ecological one, the Interior Route is undesirable. The people have almost no opposition to a coastal pipeline because the route is beyond the land of which they have first hand knowledge and consider to be their own. They are concerned, however, that their caribou that calve on the coast should not be harmed. If it is simply a matter of route location, the Coastal Route would likely be accepted in Old Crow.

It is very difficult for anyone to develop a mental picture of the intensity of activity that would accompany the actual construction exercise; the construction itself will be busy, but the control and servicing centres like Inuvik will be frantic. Without doubt the pace in Old Crow will accelerate, especially airport activity and associated loading, unloading, storage and people from outside; much of this will be unplanned and on an emergency basis. The people of Old Crow have not, as a whole, grasped this potential. They run the risk of feeling intimidated by the scale of development and its activity unless local government can have a voice in the planning and regulation of events.

The foregoing remarks try to state the current situation in Old Crow; the report does not attempt to prescribe strategies or solutions. Whatever is the course of the future, it should be charted with respect and good will.

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## Appendix I

### Community Position Paper

Prepared by Randall Charlie, Norma Kassi, and Grafton Njootli, in consultation with other members of the community. This statement was seen by the Chief, Charlie Abel, before publication.

Community Position Paper

As part of the project the community was urged to make a statement which could be included in the report. A guideline was prepared and submitted through the Band Office in solicitation of a response. During the field season of 1973, many of the people in Old Crow were pretty heavily bombarded with research questions and interviews. It is a measure of their good manners and tolerance that the research team was still intact at the end of September. Under the circumstances, the enthusiasm for developing an independent statement was much diluted, and understandably so. Nevertheless, some of the younger concerned people who had helped with the research and spoken with many of their fellow citizens prepared an outline of some of the issues about a pipeline nearby. The author of the report has done some editorial work on this submission, and it is hoped that the message intended is in no way misrepresented.

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As people who live in Old Crow, we worry about a pipeline being built near our place. There are some things that would be good if it goes ahead and there are other things that we think would be bad.

### Advantages

The biggest advantage to the project would be the jobs that Old Crow people could get. Some of our people already have skills as mechanics and secretaries and some would like to get training for pipeline work. These would be jobs in warehousing, cooks, camp caterers and attendants, skilled mechanics, truck drivers and in labour for building camps and roads. Maybe the most jobs will be in transportation that the pipeline will need. There will be jobs in unloading barges and operating them. There seem to be lots of jobs. We hear wages will be \$100,000,000. a year for the pipeline. Some people will get work on drycleaning, or bakery, or garages and service stations if they build a road all to service the people who work on the pipeline.

Because of the pipeline there will be a need for local materials. Logs, for instance, and sawdust for insulation, and wood for pilings and if they build a railroad, for railroad ties. They would need 40,000 tons of lumber and timber; and it would be worth \$4,000,000. at the mill. Maybe Old Crow should have a mill, and if it got started soon, it could probably sell a good deal when construction began. Besides they will need thousands of yards of

concrete mixed and delivered to the pipeline, so northerners should get a chance to bid on contracts. As a service to the pipeliners they will need recreation facilities like pool halls, gymnasium, tavern, etc. The pipeliners will need local things like warm winter clothing, fur coats, mukluks, hats and mitts that Old Crow people could make. They might need food sources like rabbits, caribou, moose and fish. Old Crow could get these things.

It would be a chance for northerners to get into business to get contracts for wood, gravel, concrete, drycleaning and bakery. The Indian Affairs could help through the loan fund. We can borrow from either the Indian or Eskimo Loan Fund up to \$50,000. at 5% interest, or from the Small Business Loan Fund, any approved amount at 10% for 15 years. You will also need some money from your own pocket. They send a man to look at the business before it gets approved. This would help northerners to get started in business that could be good after the pipeline is built.

The work might make Old Crow bigger and have lots going on. Pipeliners could come to town and they would buy luxury items in the local store or they may have to stay over a couple of days in a hotel. There could be local business like a cafe. The community would have a road and maybe better transportation facilities. Also there would be better communications with the pipeline.

Maybe the houses could get gas at a low rate for heating and cooking. These are some of the advantages.

### Disadvantages

We are concerned about what the pipeline will do to the land. There could be pollution to lakes and rivers and land if oil spilled or if dams are built. Dam building, road construction or seismic work should be avoided. Some impacts might be thermal erosion; melting of permafrost; oil or gas pipeline leakages; interference with migratory animals. Waterfowl habitats should be avoided entirely during breeding and nesting seasons -- from May 15 - Dec. 1. Even winter activity may cause destruction of these sites. Oil spills are threats to waterfowl and their habitat.

The calving grounds of the Barren Ground Caribou are the most critical and should not be disturbed during late May through June. Activities or structures may create barriers and deflect herds along main migration routes and prevent or delay them from reaching key habitat areas.

Muskrats depend on lakes deep enough so they don't freeze to the bottom on cold winters. So dam building or road work or seismic work should be avoided, because the water levels on lakes and creeks should not change. Oil spill would be a particular threat.

The worst for fish would be to delay migratory runs and destroy spawning areas. Gravel piling due to

seismic work or road building can cause bank erosion and harm fish populations.

### Disadvantages for the people

#### Hunting

Ten years ago - hunting was very important to the people because its one of the main sources to get food; for the family and dogs.

Pork and Beef wasn't known to our people then.

Hunted by foot, dog team and out-board motors.

Five years ago - hunting was still depended on and people used the caribou or moose meat for food and dog food. There was some beef and pork at the store, but people didn't buy much because they had caribou and moose meat. Still hunted by foot, dog team, boat and two or three hunted by ski-doo.

Today - the people hunt only when there is caribou or moose close to town. There is plenty of pork and beef and chicken at the store, and people buy them because they have the money. If there is beef at the store why not buy it, instead of hunting far out of town.

Today about one or two people hunt on foot and the rest with outboard motors.

If the pipeline comes through the caribou may not migrate the way they used to because there would be construction camps, heavy equipment work on their way. Anyway, people will not hunt because of work and drink and they will live more on canned goods.

### Trapping

Ten years ago people always went out to trap because there were not too many jobs. They were mostly self-employed in trapping; depended on trapping. Every family went to Old Crow Flats to trap muskrats. Good trapping grounds.

Five years ago few jobs available and some quit trapping. About 70% still trap. Still good trapping grounds.

Today about one or two go trapping marten, mink, etc. due to jobs available around Old Crow. About 8 families go to the Flats for muskrats.

Today when the pipeline comes through there will be no more trapping. Poor trapping grounds. There will be more jobs.

### Fishing

Ten years ago people had their own fish camps and about 90% went fishing during the summer. Used for food and dog food.

Five years ago, about 40% go out fishing because there were jobs around. Still used for food and dog food.

Today about three or four families go out fishing because there are a lot of jobs around Old Crow, people don't have time to fish.

Today when the pipeline comes through there won't be any fishing because people won't have the time. There will be wages to buy it in the store, jobs will be available.

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There are examples of this happening in the past. In 1950 wages in the Dewline were good and thousands of construction men and technical experts came from the south. It brought a huge flow of freight. It affected the way of life of the Eskimo in the Arctic and the Indians in the Mackenzie region, and it brought T.B. and other diseases. Infant mortality was up to ten times as high as in southern Canada - for every baby that died in the south, ten died up north. The Dewline employed some hundreds of northern people for two or three years and then employment fell away to almost zero. The Dewline made a lot of action for a time, both in the north and in Ottawa, but that is not always for the better.

#### Changes in Community Affairs

Ten years ago - meetings were always full with people that attend. Everyone got together when there was a community job to be done.

Five years ago - about 60% of the people used to go to the Band meetings, along with some transients. People still didn't want pay for doing community affairs. Still willing to help.

Today, there are about 20% of the people who go to Band Meetings and there are always about 15 transients going to Band Meetings. People are not willing to work for the community. They are beginning to want pay. Everyone works for oneself.

If a pipeline comes through about 10 might go to Band Meetings and hardly anyone will be willing to take part in community activity. There will probably be more transients going to meetings than our own type of people.

This change could be the break-up of community management and if we are not careful, the whiteman could take over.

The jobs will be available for only a two-year period for the residents of Old Crow. Except for a couple of permanent jobs, there will be long term damage after the pipeline is complete. For example, a number of native people depend on trapping and hunting as means of livelihood; these people may go to the pipeline work for three years and will not go back to trapping and hunting when the construction is finished. Even the community leaders may go to the pipeline and work, this will also affect the community.

If they build a pipeline near Old Crow, there will be a main construction camp about 9 to 12 miles out and this construction camp will consist of 900 southerners. Most pipeliners use vulgarity or profanity. It's about six out of ten words that they use.

We don't know how many pipeliners would come to Old Crow, and what they would do. With pipeliners and wages available we are worried about drinking and home life.

### Drinking

An increase in drinking will be a great problem within our society. With more men and/or families coming to Old Crow, anyone would say definitely there has to be more drinking going on. Taking into consideration, this fault, back to about 10 years from now. There may have been the odd home brew pot set. The law for alcohol among our people was strictly against the criminal law. Our people at that time didn't need to drink, they were always busy hunting, fishing and especially trapping. As the years went by to about five years from now the law changed, airline schedules increased, more outsiders, and employment for wages a little better, then drinking became into being.

Today drinking became a social problem; the age was lowered to 19, local stores sold the ingredients for home brew, employment for wages increased so there was money to spend on booze. Before there were no birthday parties, now we have more.

Today when the pipeline comes through, the men up there work for weeks. When days off came, booze will be desired so they'll come to the nearest town expecting booze.

Bars and liquor store will be built in Old Crow where all the money is. The children would be hungry, cold in winter, due to poor heating system, while parents are out drinking. After the gas pipeline is

finished operating there will be no jobs and the people will be drinking at the bar. There will be more young drop-outs from school due to drinking problems.

Today more family problems, more young adults leave home to travel and work. No families go to fish, trap and hunt together.

When the pipeline comes through families will split. Young adults will leave home. Probably won't work together as usual. Will rarely go fishing, trap or hunt.

Important effects of the pipeline will be invisible.



## Appendix II

### Informants and Research Assistants

INFORMANTS

Abel, Albert	Frost, Donald
Abel, Alice	Frost, Glenna
Abel, Charlie	Frost, Louise
Abel, Johnny	Frost, Shirley
Abel, Marion	Frost, Stephen
Abel, Rosalie	Joseph, Phillip
Abel, Sarah	Josie, Amos
Benjamin, Martha	Josie, Dolly
Benjamin, Neta	Josie, Edith
Benjamin, Peter	Josie, Jane
Bruce, Robert (Sr.)	Josie, Peter
Bruce, Robert (Jr.)	Josie, Wilfred
Bruce, William	Kay, John Joe
Charlie, Ben	Kay, John Joseph
Charlie, Charlie Peter	Kay, Roger
Charlie, Fanny	Kay, Rosie
Charlie, Helen	Kay, Sarah
Charlie, Mary	Kassi, Eliza Ben
Charlie, Peter	Kassi, Mary
Charlie, Randall	Kassi, Norma
Charlie, Renee	Kendi, John
Charlie, Ruth	Kendi, Margaret
Fredson, Annie	Kendi, Ruth
Frost, Alice	Linklater, Jimmy
Frost, Clara	Linklater, William

Lord, Annie	Nukon, Annie
Lord, David	Nukon, Richard
Lord, Lawrence	Nukon, Peter
Lord, Peter	Peter, Abraham
Lord, Rowene	Peter, Joel
McDonald, Neil	Thomas, Mary
Moses, George	Thomas, Pharis
Moses, John	Thomas, Jerome
Moses, Myra	Thomas, Issol
Netro, Florence	Tizya, Andrew
Netro, Mary	Tizya, Clara
Njootli, Effie	Tizya, John
Njootli, Grafton	Tizya, Martha
Njootli, Joanne	Tizya, Moses
Njootli, Stanley	Tizya, Peter

RESEARCH ASSISTANTS

Abel, Charlie

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Charlie, Charlie Peter

Charlie, Helen

Charlie, Randall

Frost, Glenna

Frost, Shirley

Kassi, Norma

Kendi, John

Lord, Peter

McDonald, Neil

Moses, George

Njootli, Grafton

Tizya, Moses

### Appendix III

#### Acculturation and Identity Levels

## APPENDIX III

ACCULTURATION AND IDENTITY LEVELS<sup>1</sup>

The total acculturation and identity score, and rank for each community member in the sample was obtained as follows:-

1. Inter-cultural Acculturation Scale

a. Education <sup>2</sup>	<u>Highest Attained</u>	<u>Score</u>
none		0
Gr. 1		1
Elementary		2
Junior Secondary		3
Senior Secondary or manual training		4
Post Secondary		5
b. Employment <sup>3</sup>	none or hunting (trapping, ratting)	0
	self or handicraft	1
	in Old Crow: part-time	2
	full-time	3
	outside Old Crow: 6 months	4
	6 months	5
c. Engaged in Traditional Material Culture <sup>4</sup>		
(i) Number of traditional articles the person can make: boats, snowshoes, babiche, dried meat, etc. from a list of 17 items.		
10		0
9-10		1
7-8		2
5-6		3
3-4		4
1-2		5
(ii) Number of traditional articles actually made by the person.		
10		0
9-10		1
7-8		2
5-6		3
3-4		4
1-2		5

1. based on the survey by Chance (1965) among the Eskimos of Barter Island, Alaska.
2. Source: (i) DIAND Yukon Indian Manpower Survey, 1971  
(ii) field investigation, 1973.
3. Source: field investigation (restricted to the past 18 months of activity).
4. Source: field investigation.

The total score was determined by adding all scores, and the final rank was derived by:

<u>Total Contact Score</u>	<u>Rank</u>
0-5	low
6-11	medium
12-17	high

## 2. Identification scale

	<u>preference</u>	<u>score</u>
a. general feeling of pipeline construction	no/definitely not don't care very good/yes	0 1 2
b. pipeline employment	no/definitely not don't care very good/yes	0 1 2
c. outside: i)training	no/definitely not don't care very good/yes	0 1 2
ii)move	no/definitely not don't care very good/yes	0 1 2
iii)work	no yes	0 1
d. feeling of more tourists in Old Crow	no/definitely not don't care very good/yes	0 1 2
e. hunting and trapping as a better alternative to pipeline	yes/definitely don't care definitely not/no	0 1 2
f. reason for/against pipeline	affect traditional activities create social change in Old Crow for and against, balance create better economic situation in Old Crow more jobs	0 1 2 3 4

The total identification score was determined by adding the scores and the rank was derived as follows:

<u>Total Identification Score</u>	<u>Rank</u>
0-4	low
5-11	medium
12-17	high

## ADDENDUM

Included in the report as a by-product of the research was a Loucheux Place Name Map, since it was thought by the author to be of interest to readers to show the extent of the Old Crow territory as presently perceived by knowledge of traditional names. The names were gathered by two groups - one, older residents, and the second, younger people, and the informants who contributed are listed on it. As it is not a map which bears directly upon the report itself, it is therefore not included in this publication. However a copy may be procured by applying direct to Campbell Printing, 880 Wellington Street, Ottawa, Ontario K1R 6K7; reference No. OF-104; price \$3.00 per copy.



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